THE HEALTH MAGAZINE

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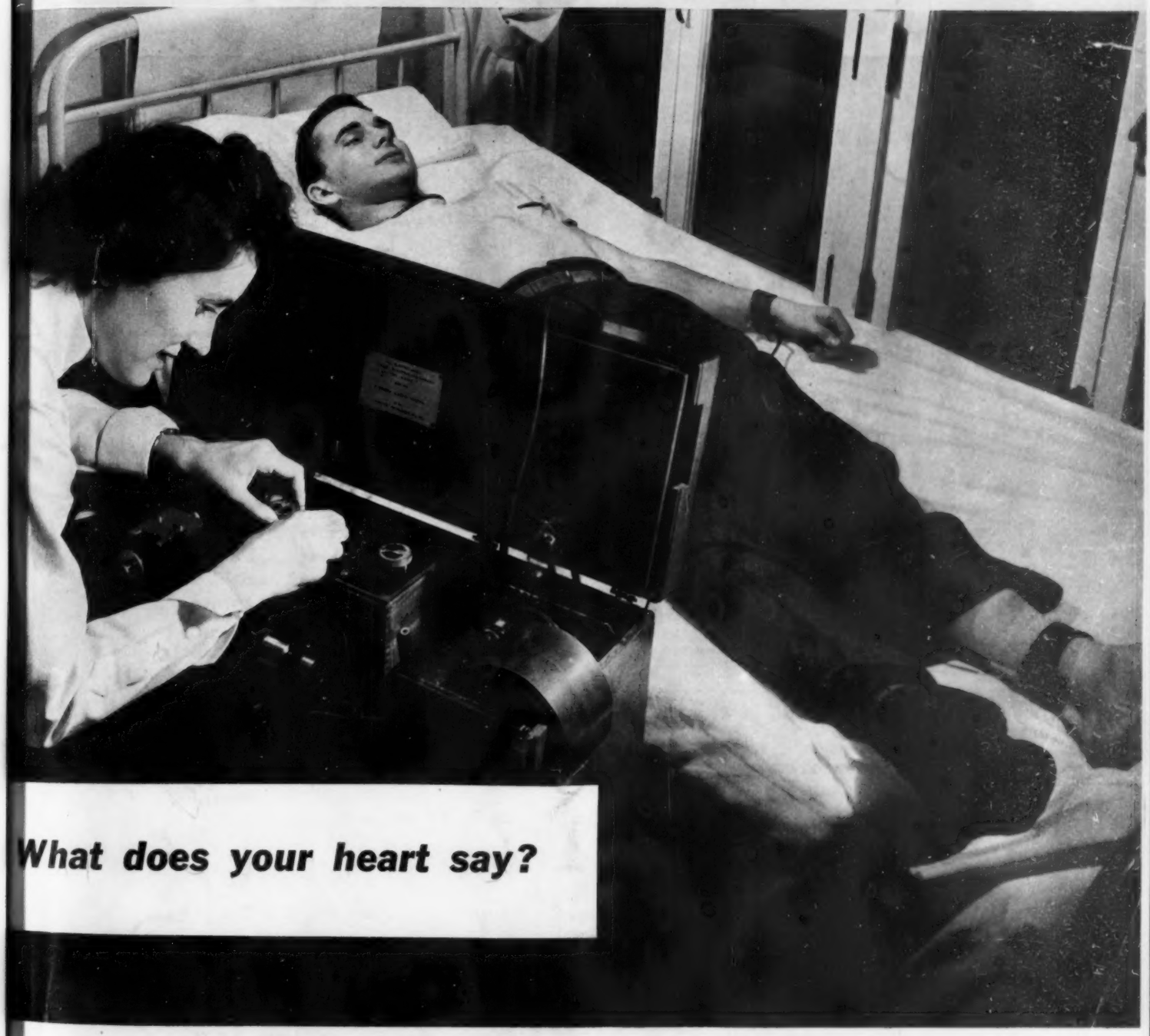
HYGEIA



What does your heart say?

FEBRUARY • 1941 • 25c

WHAT DO YOU LOOK LIKE TO YOUR CHILD?

How does your child see you? Clearly? Distinctly? *How do you know?* A child has no experience, no standard of measurement, no way of judging whether his vision is good or bad. To him, things are just the way he sees them, and that's all. Your face may be blurred . . . the distant scene a foggy mass . . . the writing on the blackboard faded, indistinct. He cannot tell you.

And because he *doesn't know why* things are this way to him, his attention wanders, his interest lags. He doesn't fully grasp the beauties of the world, or the lesson on the blackboard.

For the sake of his progress, his health and his happiness, *have his eyes examined.* Only by scientific examination will you know whether or not he sees correctly.

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★ ★ ★

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BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

28

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FORECAST

"Man does not die; he kills himself," wrote the Roman philosopher, Seneca, near the beginning of the Christian era. In "Stop Killing Yourself," Harold S. Diehl, M.D., discusses those factors in our modern civilization that are responsible for an overwhelmingly high death rate: overeating, high-pressure living, use of stimulants and self-medication.

Soon to appear in HYGEIA is a series of articles on sex education by some of the foremost authorities in the United States. This series will appear progressively, beginning with an interpretation of sex as it is a factor in the life of an infant. The natural problems of the adolescent boy and girl, the married couple and those of women at the menopause also will be considered.

"In the spring of 1919 when the third wave of the great influenza epidemic subsided, a stunned world tried to compute its casualities," says Lois Mattox Miller. "War had taken some 8 million lives, but influenza had killed almost 21 million people—550,000 in the United States alone."

For centuries, influenza, or something very much like it, has recurred in a baffling cycle. But at intervals of approximately twenty years, this disease becomes more virulent, more widespread, extending across national boundaries and even leaping from continent to continent.

And now in a war-filled world, with the stage set for an encore, has science been able to marshal its forces sufficiently to keep this devastating holocaust in check?

John McDowell McKinney, M.D., believes that for each hundred persons you ask: "What is neuritis?"—you will probably get a hundred different answers. Dr. McKinney gives you facts, explains the difference between neuralgia and neuritis, and describes a few of the more common and more excruciating nerve pains.

"Of all the nations in the world," says Morris Fishbein, M.D., "the United States is most afflicted by its healers: We bear the palm in every class so far as healing cults are concerned."

Only here can be found this heterogeneous conglomeration of cultists, faddists, quacks and irregular practitioners of medicine that the public has the questionable privilege of supporting.

Americans spend over 2 million dollars each year for the right to be humbugged and bilked by thousands of so-called "healers" of one kind or another, many without even an elementary education, says Richard B. Phillips, M.D., in an exposé titled "The 'Sure-Cure' Racket."

HYGEIA

THE HEALTH MAGAZINE

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sound, even teeth

Are your baby's teeth coming in straight and sound—not too close together? Give him Vitamin D (Squibb Cod Liver Oil) every day, in addition to a well-balanced diet.

a straight, strong back

See how erectly she sits! See how straight and strong her back is! When she was a few weeks old, her mother started her on Squibb Cod Liver Oil, and she's been getting it every day since. These dark, dreary days she needs it particularly, because sunshine, alone, may fail to provide enough Vitamin D. Squibb Cod Liver Oil provides some of the important ingredients essential for building her well-shaped head, her fine, full chest.

a fine, full chest

Your baby's appearance in later life may depend on the kind of structure he builds now. You want his chest to develop deep and full. You want his legs to grow straight and strong. Give Squibb Cod Liver Oil, which provides essential Vitamins A and D.

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SQUIBB *Cod-Liver Oil*

"The Adcomber"

looks at Hygeia ads

Has this wintry weather been unkind to your hands? Give them real protection against chapping, reddening and roughness. Use ITALIAN BALM, a time-tried lotion and proved beauty aid. Costs as little as 10¢ a bottle. See *page 137!*

• • •

So you're not supposed to drink coffee! Well, no need to cast envious glances at those who can. Try POSTUM instead! You'll find it a delicious, cheering hot drink—a pleasing coffee substitute to set off any meal. Note page 115.

• • •

Betcha mother would love a FOLEY FOOD STRAINER. The same fresh fruits and vegetables the family eats also do for baby if they're Foley Strained. Quick, easy and economical—this kitchen aid is a friend to countless mothers. For helpful free booklet, see *page 126.*

• • •

An investment in a FLEX SEAL COOKER is an investment in real family happiness. Meats and vegetables retain their full rich flavor, cook to a new tenderness—yet keep more of their vitamins and minerals. And the whole meal is cooked in split-second speed. More details on page 131.

• • •

For citrus fruit juices at their tastiest — get acquainted with Dr. Phillips pure grapefruit juice, orange, or combination orange and grapefruit juice. Rich in vitamin C, they also supply vitamins A and B. Your grocer carries Dr. Phillips. Look for familiar can pictured on *page 116.*

• • •

I note that Junket Folks are offering a dandy recipe booklet called "121 Tested Recipes." Good things to eat made easy to fix. And believe me, nothing's easier to fix or eat than RENNET CUSTARDS—6 delightful flavors. See page 118.

• • •

There's no simpler way to give your family extra iron than to give them BRER RABBIT MOLASSES daily. Three tablespoonfuls supply one-third of your child's total daily requirements. The new BRER RABBIT cook book will be sent you free—if you just clip the coupon on *page 119.*

• • •

If your face is fussy about your choice of cosmetics, take my word and try MARCELLE COSMETICS. They've been proved safe for sensitive skins . . . every known irritant is omitted. Mail the coupon on page 85 with 10c and receive free samples.

• • •

For the modern-minded woman, the newest news in tampons is MEDS. MEDS is an improved type tampon with individual applicator—it is put out by the makers of Modess. Try a box at the thrifty price of 10 for 20¢. Note ad on *page 157.*

THE ADCOMBER.

Who's Who IN HYGEIA

WILLIAM J. HUTCHINS, author of "Health and National Defense," page 91, was born in Brooklyn, New York. His parents were New Englanders, who, as children, lived across the street from each other in the little town of Danielsonville. After a year's trial of Brooklyn, his family moved to Columbus, Ohio. At 11, Hutchins journeyed with his father's family to Minneapolis. He remembers well his father's pastoral calls, when he sat in the sleigh and held the horse, while his father made his visitations.

In 1920 Dr. Hutchins became President of Berea College, Kentucky. For nineteen years he has served the mountain people of the Southern Appalachians. Retiring a year ago, at the age of 68, he has recently returned from a year's work in Iran, as a member of an educational commission.

Asked of his travels, he replied that he has had the opportunity to visit India three times: once with Sherwood Eddy shortly after the Armistice, once with the Lindsay Commission on Christian Higher Education in 1930-31, and more recently when he was trying to find a way home from Iran. This last journey involved a thousand miles of desert travel by automobile, some hundreds of miles of railroad travel in India, and forty days on an American liner through the Indian Ocean, around the Cape of Good Hope to New York.

FRANK L. BEALS, assistant superintendent of schools, Chicago, is also a retired army officer. His article, "Educating the Handicapped," appears on page 100. Mr. Beals first became interested in education from the teacher's or administrator's point of view many years ago, when he was military attaché in Brazil. When he returned to the United States, he immediately became connected with the Northwestern Military and Naval Academy, serving there for seven years. In 1917 he became supervisor of physical education of the Chicago high schools.

Mr. Beals studied at the University of Chicago and DePaul University. For five and one-half years he has been assistant superintendent of schools in charge of all special education in the city, which includes education of the crippled, the socially maladjusted, the mentally handicapped, the blind and the deaf.

JAMES N. MILLER, whose article "Giant Blood Bank" appears on page 107 is a nationally known magazine and syndicate writer on science subjects. He is a Harvard man, a rabid tennis enthusiast, and used to coach baseball, hockey and football in a Boston private school.

His saddest experience happened just the other day when he walked into the office of a Washington, D. C., newspaper publisher:

"Your face and name are familiar," said the news magnate. "Haven't we met before?"

"Maybe so," replied Miller. "I've been writing Sunday articles for your paper for nine straight years."

PAUL de KRUIF, author of "Infantile Paralysis," page 94, was born in Zeeland, Michigan, in 1890. He received both his B.S. and his Ph.D. at the University of Michigan. He was a bacteriologist at the University of Michigan from 1912 to 1917, and was with the Rockefeller Institute from 1920 to 1922. Since 1925 he has been a reporter for the Curtis Publishing Company.

In 1917 he was a lieutenant in the Sanitary corps, United States army, and served as a captain in the same unit from 1917-1919.

He collaborated with Sinclair Lewis in 1925 on *Arrowsmith*, and has since had published many books of his own in the field of science, perhaps the best known of which is *Microbe Hunters.*

Dr. de Kruif is also Secretary General, Advisory Committee, National Foundation for Infantile Paralysis.

LETTERS FROM *Readers*

Sex Curiosity in Children

To the Editor:

May we have your permission to publish all, or a portion, of the editorial in the January HYGEIA, entitled "Sex Curiosity in Children"?

Our Department is responsible for a section in one of our denominational publications circulated among ministers, school teachers, physicians, and nurses. Our columns deal primarily with matters of health education and medical missionary activities carried on by the denomination, both at home and overseas. This editorial in our opinion presents a concept which many do not have of a rather delicate and difficult subject, and I would therefore very much like to present it in our paper. Doubtless, a considerable number of our readers also read HYGEIA, but for the benefit of those who do not, we should like to reproduce the editorial from HYGEIA, giving credit, of course, to its original source, if our request is in harmony with your established policy.

H. M. WALTON, M.D.,
General Conference of
Seventh-Day Adventists.

Takoma Park, Washington, D. C.

Permission has been granted.—ED.

Help Wanted

To the Editor:

In the October issue of your magazine the article entitled "Help Wanted!" written by Marguerite Henry mentioned four accredited schools for Occupational Therapy in the United States.

As president of the Michigan Occupational Therapy Association I have been requested to notify you of an oversight which omitted the Kalamazoo school from being named with the others in this article.

In November 1939 the Kalamazoo State Hospital School of Occupational Therapy was fully approved by the American Medical Association. The following concerning its approval is quoted from the Michigan Occupational Therapy Association Bulletin for November 1939—Vol. 111—No. IV.

"As a result of closer affiliation between the School of Occupational Therapy and Western State Teachers College and additional training centers for practice teaching, the Council on Medical Education and Hospitals of the American Medical Association has voted full approval of the Kalamazoo school.

"Prerequisites for entrance have been consistently raised during the seventeen years of the school's existence and now only those are admitted who have successfully completed at least one year of work acceptable to Western State Teachers College.

"Two courses are now given at Kalamazoo. The diploma course is primarily for those students with one year of college work to their credit and the degree course for those with more than one year of work.

"There are only five recognized schools of occupational therapy in the United States and the one at Kalamazoo is the only one where the practical training is controlled within the hospital."

EVELYN LANE, President,
Michigan Occupational
Therapy Association.

Caro, Michigan.

The Kalamazoo State Hospital School of Occupational Therapy was fully approved by the American Medical Association's Council on Medical Education and Hospitals.—ED.

Brucellosis

To the Editor:

Your correspondent, Frances B. Gebhardt, expresses deep concern about brucellosis in the January

(Continued on page 138)

Cosmetics for
SENSITIVE SKINS

Of Course . . .

you will want to use cosmetics with a known record of dependability. You will want to be sure they are free of irritating substances and still are pleasing beauty aids.

The reputation and performance of Marcelle Hypo-Allergenic Cosmetics are familiar to physicians and their patients everywhere. Patients, following their doctor's prescription, have been satisfied users of Marcelle Cosmetics for over 8 years.

Allergists and Dermatologists prescribe Marcelle Cosmetics as a routine precaution in allergic and dermatitis cases. You can rely on Marcelle Cosmetics.

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Send me your folder, "How to Guard and Enhance Your Beauty," and samples of cold cream and powder. I enclose 10c.

☐ Blonde ☐ Brunette ☐ Auburn

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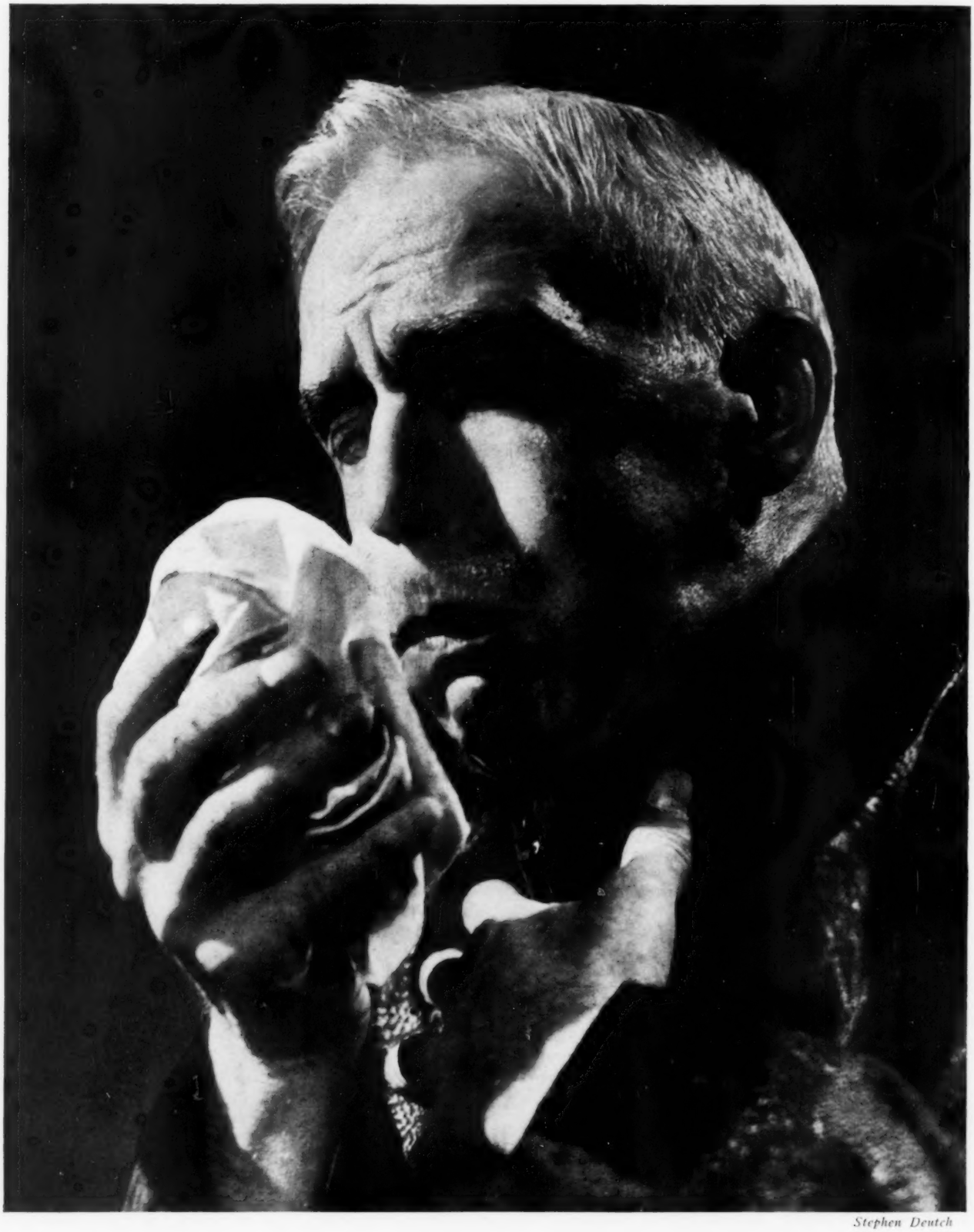
Address.....

City.....State.....



Stephen Deutch

Once more the mystic cycle of influenza returns to claim its victims, but this time it is not the virulent, devastating plague that killed so many thousands of people in 1918-1919—over 550,000 in the United States alone.

Influenza Strikes Again

Throughout the United States, from city after city and state after state, come reports of mass infection with influenza. Fortunately, the influenza of 1940-1941 is not the devastating plague that struck and destroyed so many thousands in 1918-1919. Influenza killed more victims then than did all of the armies of the World War in four years. It was called the Spanish influenza, but no one knew exactly the place in the world from which it emanated. This time apparently the influenza came from the Far East—at least from that direction for the United States—because we know that it appeared in Hawaii and on the Pacific Coast before it came to the Middle West and the eastern portions of our country.

In the years that have passed we have learned much about influenza, but we do not yet have with certainty a specific method of treatment for the devastating influenza that prevailed in 1918. We have learned much about prevention, but again the methods now available are still in what is called scientifically an early experimental stage. Elsewhere in this issue of HYGEIA appears a statement from the United States Public Health Service, giving the status of most of our knowledge of the cause and methods of spread of this disease. Also in this issue is a circular giving the best simple advice that can be given to people as to what to do in case they are attacked by influenza. In the issue of HYGEIA that will appear in March, will be published an article by Lois Mattox Miller, telling of the newest technics developed by workers of the Rockefeller Institute in an attempt to establish a preventive vaccine that will really work.

The history of epidemics of influenza indicates that they appear about three times in a century in the devastating form. Most serious of influenza epidemics were those of 1847, 1857, 1890 and 1918. Many investigators predicted that a major epidemic would appear in February of 1941. Fortunately for us, the disease that now prevails is not the killing influenza but has a high infectiousness. Throughout the United States numbers of people have been inoculated with the vaccine that has been developed, and no doubt within a few months we will have a better knowledge than we now possess as to the power of this vaccine to protect. Five hundred thousand doses of the vaccine had been prepared and were shipped to Great Britain with the hope that great numbers of people could be immunized in Great Britain before the epidemic struck so that a more definite opinion might be developed as to its certainty in protecting against the disease. Unfortunately, a German torpedo put an end to the boat that carried the vaccine, and all of it was lost. Thus war struck in an indirect manner at one of the great investigations of modern science that might have brought increased freedom from disease to millions and millions of people. Today influenza is still somewhat of a mystery. The scientists are searching, and with the forces that are now combining in these projects the answer to influenza may not be so far away.

Life requires many renunciations that must be compensated for in some manner. Dreams are the royal way; they provide a safety valve or an escape mechanism. In dreams we can be rich and powerful, although awake we may be poor and weak.

Dreams have a

THE POET, the artist and the common man have always believed that dreams have a meaning. They do not accept the theory that dreams are merely a by-product of indigestion, hard beds, or cold feet.

The nineteenth century scientists defined these dreams as nonsensical creations of a mind running wild in sleep, unguided by reason. But it has since been proved that the poet and the artist and the common man were right, and that the theories of these scientists were wrong.

It has been proved that dreams, when properly studied, reveal the depths of the soul, the bedrock of man's nature. This study of dreams must consider two matters: (1) The dream itself, as it is remembered when the sleeper wakes up, and (2) its deeper meaning, hidden in the unconscious mind, concealed there by distortion, disguise and symbolism.

The psychoanalyst interprets this deeper meaning as part of his treatment of patients.

To get at this hidden meaning of our dreams, we have to go back to our childhood and trace briefly the mental development of the child. The infant begins by being amoral, selfish, self-centered, attempting to dominate every one around him. If he does not get what he wants, he is strongly resentful. Some children even go so far as to have temper tantrums. It is not unusual for a child to say to his parents, "I wish you were dead," when they frustrate his wishes.

As the child becomes older, he must abandon this amoral, anti-social, selfish attitude and adjust himself to his parents, his brothers and sisters, and later on to the rest of the world. This growth process is a hard and bitter one.

As he grows into a normal, moral, social being, the child is under constant necessity to put aside his selfish, dominating tendencies; but these remain in the unconscious mind, which stores every experience from birth to death. These primitive, childish, selfish impulses are censored by our conscience (our conscious discrimination between right and wrong) and come out disguised, distorted, and concealed. They may best be studied in our dreams.

It is perfectly normal to wish to own a nice automobile. This casual, conscious wish may be transformed, in the unconscious mind, into a wish actually to steal an automobile. A little child will readily take a toy wagon that belongs to another child before he has learned to respect property rights. Our unconscious minds remain on this childish level.

An illustration is the case of Mr. A who, after seeing a smart automobile, owned by one of his friends, parked outside the door, had a dream in which he went down the street, saw a toy wagon, and took it away. This dream was a disguised wish to take his friend's automobile. The real wish was concealed when the automobile was changed into a toy wagon.

Another means of concealment in dreams is symbolism. A familiar use of symbolism occurs in everyday language in which many symbolic words are used. The slang expression for money is "dough"; for dollars, "iron men"; and for $1,000, "a grand." Similarly, we may dream of a lump of dough, meaning money; or a series of toy iron soldiers, meaning dollars; or a grand piano, meaning $1,000.

A case of symbolism in dreams is that of a young woman who was engaged to be married. Her fiancé lived in a distant city and she became interested in another man. She really loved her fiancé, but was also attracted to the new friend. She accepted invitations to go out with the latter and soon realized that he was falling in love with her, a thing she did not want to happen. She then had a dream which, in a symbolized way, expressed both her fears and desires to be rid of the difficult situation. She dreamed she was picking violets with her friend. It was a spring day and nearby was a shallow stream. On the other bank they saw more violets, but when they started to cross the stream, on stepping stones, the water rose and was soon up to their necks.

Analysis of this dream revealed it to be a symbolic representation of the common term, "being in deep water."

Another example of a symbolization dream is that of a certain man who was dominated by his mother and father. His unconscious wish was to leave home and get a position away from his family. This wish was revealed by a dream in which he was riding in a subway. The train came out on the surface, and he rode along on the tracks in a car just big enough for one man. When he came to a street intersection and wanted to turn off to the right, he was blocked by a big automobile.

The subway and the subway car represented his infantile life. The part of the dream in which the subway came out to the surface meant that he was taking a more adult attitude. He wanted to turn off to the right (right and left in dreams usually have a moral significance—right and wrong). The big automobile blocking his way represented his father. His wish, hidden in this dream, was to live a more adult life.

The process of analyzing dreams consists of considering each part or detail of the dream and asking the dreamer to say the next thing that comes to his mind until the real hidden meaning of the dream is revealed.

Meaning!

By SMILEY BLANTON

An example of this process is the case of the man who was an only child and whose mother had been very close and dear to him. Shortly after his mother died he had the following dream: He was standing in an unheated garage which had just been built and was looking at the walls and thinking to himself, "This would be very cold in the winter." He began to cry and awakened with tears in his eyes and with a feeling of fear and depression.

The dream analysis (condensed) was made in this way: The man first thought of the garage, then there came to him the thought of his mother and her recent illness and death, and then the fact that they had enclosed her coffin in a concrete box.

It was clear then that the garage was symbolic of his mother's coffin, that he was crying because of his grief over her death, and that the wish back of the dream was that his mother might be alive again and not in the cold concrete box.

This is also an example of concealment of dreams by transferring the grief from the real cause—the death of the mother—to an apparently foolish one, namely, the coldness of a garage in winter.

This dream illustrates one cause of bad dreams or nightmares. In this case the nightmare was the breaking forth into the conscious mind of the deeply buried grief for the loss of the mother.

A frequent cause of nightmares in children is fear aroused by the primitive impulses which are deeply buried in the child's unconscious mind. Often in these dreams the child is attacked by a dog or a bear. The animal in these dreams is symbolic of a parent who the child fears will punish him for a misdeed; not a real misdeed, but one or more of the selfish and resentful impulses which the child has buried in his mind.

In a dream we may be not only ourselves but at the same time one or more other persons. We may be a Dr. Jekyll and Mr. Hyde. We may be a child and a grown person. An example of this kind of dream is that of Mrs. B, an actress. When she was a child, her mother and father—also stage personalities—were very strict with her. Once at the age of 7, when she was acting, she forgot her lines. Her mother scolded her severely, and Mrs. B has never forgotten the incident nor her grief over the scolding.

One night at supper her own little boy of 8 talked excessively and she scolded him severely. That night she dreamed that a little girl, about 7, stood in front of her reciting and that she scolded her for the way she did it. In this dream she identified herself with her mother and was scolding herself. She was punishing herself in her mother's fashion for being too severe with her own boy. The wish in this dream was that she would be punished.

One of the functions of the dream is to keep us asleep. For example, if we become thirsty at night, we may dream over and over that we have taken a glass of water. Thus, we can remain asleep until, finally, the thirst is strong enough to awaken us.

Another interesting example of this function of the dream is that of a young man who was extremely tired when he went to bed. Previously, he had been reading a book about India, and when the alarm clock rang the next morning, he dreamed that he was hearing distant temple bells in India and failed to wake up.

The dream books are correct in saying that dreams frequently go by contraries. However, the conclusions drawn in dream books are usually false. For instance, dreaming of a wedding does not mean we shall hear of a death.

Dreamers do not always wish for things that will bring them happiness, but on the contrary wish for things that bring pain and unhappiness, because of a sense of duty or because of a desire to punish themselves.

Dreams are often simple, undisguised wish fulfillments: when we are hungry we dream we are eating; when we are thirsty we dream we are drinking; when we are away from home we dream we are back again; when our loved ones have left us we dream that they have returned.

A question often asked is, "Do dreams foretell the future?" In a sense they do. Since dreams express our strongest wishes, a dream may be prophetic in that it expresses something that we are consciously or unconsciously striving for and may attain.

Again, the unconscious mind very often has a truer comprehension of our difficulties than our conscious mind has. A dream may often express a fear of illness, a fear which is based on an awareness in the unconscious mind that we are threatened with an illness, or that we are already suffering from this illness.

Consider the case of Mr. C. He dreamed that he had a disorder of the lungs and soon felt ill. The real meaning of the dream was that he feared he had heart *(Continued on page 114)*

HEALTH and NATIONAL DEFENSE

By WILLIAM J. HUTCHINS

I HAVE NOT been summoned as a military expert. But it is good to know that one has a country worth defending. You do not understand the meaning of America until you live for a time in a totalitarian state of Europe, a state in which the whisper of the ruler reverberates in the office of every ministry, a state in which the members of parliament are yes-men, where a man who speaks a word against the ruler disappears, where the press is governmentally controlled, where any religion but that of the state is suspect.

That was an amazing episode in our national history which occurred a few weeks ago, when nearly 50 million men and women went to the polls, and each, quietly, alone, registered his will as an American citizen, had a share in determining who should be the President of the United States for the next four years. You will speak to me of the shame of American cities, of the regimentation of votes, and all the rest. But the defects of our democracy, its diseases, are recognized as defects and diseases to be remedied; they are not inherent in democracy, they are alien to democracy, and we don't boast of them as virtues. I should rather live in a land whose government struggles, however blindly, toward a government of the people, by the people and for the people, than to live in a land whose government is of one man, by one man, if not for one man.

Ours is a nation worth defending, because of its heritage. Even if some of us cannot claim that our forebears found a toe-hold upon the crowded deck of the Mayflower, all of us are heirs of those men and women who sailed to a new world to found on the barren shores of New England their new world.

All of us are the heirs of Daniel Boone and his companions. In the story of the "Great Meadow," you remember how Diony says to Boone, "A heap of unexplored corners there must be, places for a body to get lost in and never find himself again." "Yes," says Boone, "there are rivers and creeks to spy out, and caves and wonders to see, but I don't reckon I'd get lost in e'er one, not to say, lost. I was bewildered right bad for as much as a week at a time, but not lost. I never felt lost the whole enduren time." Bewildered, but not lost.

All of us inherit the priceless treasure upon which we gaze when we speak the name, Lincoln, when we use his words, "I have oft-times been driven to my knees by the overwhelming conviction that I had nowhere else to go. My own wisdom and the wisdom of all about me seemed insufficient for the day."

A tradition ours, which lies behind the words of Lowell:

> O beautiful, my country, ours once more,
> . . . .
> What words divine of lover or of poet
> Could tell our love and make thee know it,
> Among the nations bright beyond compare?
> What were our lives without thee?
> What all our lives to save thee?
> We reck not what we gave thee,
> We will not dare to doubt thee,
> But ask whatever else, and we will dare.

Our nation is worth defending because it evermore enriches the chance of God's plain people. Some of you have lived in a country

where there is no middle class, where one lives in the presence of lavish wealth, in the presence of poverty, bitter and cruel. One of the joys of the traveler in America is the sight of the increasing number of small houses, small and lovely houses, the homes of a great "middle class," so-called, where fathers and mothers and little children can live in decency, homes prophetic of the day of which Grundtvig speaks when he says, "Few have too little, and fewer still, too much."

Our nation is worth defending because it bears the hopes of all the little peoples of the world, the peoples defrauded, beaten down, destroyed. An Oriental said to me, "America is my Utopia." Ah, yes! Over there in America a man may dare to do the thing he dreams of. Over there a man may look fearless into the face of his ruler. Over there in America one may live and breathe, over there are people who understand, and care, and are strong.

Ours is a nation worth defending. But can we defend her? One would say that our task should be relatively easy. Even now, in a world of U-boats, and of bombers, and of raiders, the Atlantic and Pacific offer barriers against external foes, barriers of immeasurable strength. Even after centuries of spoliation, our resources are immeasurably great.

But the defense of our nation cannot be entrusted to a race of adult morons, whose children are spawned into the world, to die like flies. The nation's defense cannot be entrusted to men, such as fill the venereal wards of our hospitals, such as filled the venereal sections of our army camps in the Great War. No more can our nation's defense be entrusted to men whose gangs surround our saloons and pool rooms, whose sole evidence

of will power is the tenacity with which their teeth hold their cigarettes.

In the Orient, this past spring, I saw great fields of poppies. It was a lovely sight. The product of those fields yielded the government large returns and brought to the peasants a better income than any other possible crop. How simple, how easy! The government seems to forget that every field of poppies is a wall laid low and leveled in the nation's ramparts. The Japanese know very well that a nation may be demoralized by opium pipes as by bombing planes. If a nation chooses to commit suicide by drink and narcotics, no Messiah will save her. Haven't we brains and character enough to discover for men and women a pathway to a wholesome family life, in which the children shall not be sacrificed to the Moloch of ignorance, and lust, and superstition; in which children shall be born who are wanted by the parents, and needed by the nation, in which youth may learn to conserve rather than dissipate the most precious of our national resources?

Much of my life has been given to a group of some three million people whom we proudly style the purest Anglo Saxon stock in America. Ah! There in the Mountains are the people. Like the Swiss, like the Highlanders of Scotland, they will defend the nation. But, if their women should be bent by labor on the hillside, teeth uncared for, food unfitting; if their children, one to each mother each year, should be born without the care of competent physicians, if these women should become withered hags at 40, if their men should seek by moonshining to eke out a pitiable existence, what help would they be to the national defense? *(Continued on page 146)*

Ours is a nation worth defending because it bears the hopes of the little peoples of the world; the peoples who are defrauded, beaten down, destroyed.

Homer Jensen

What is this plague that makes one child susceptible while a hundred remain exempt? Is it some deep chemical difference?

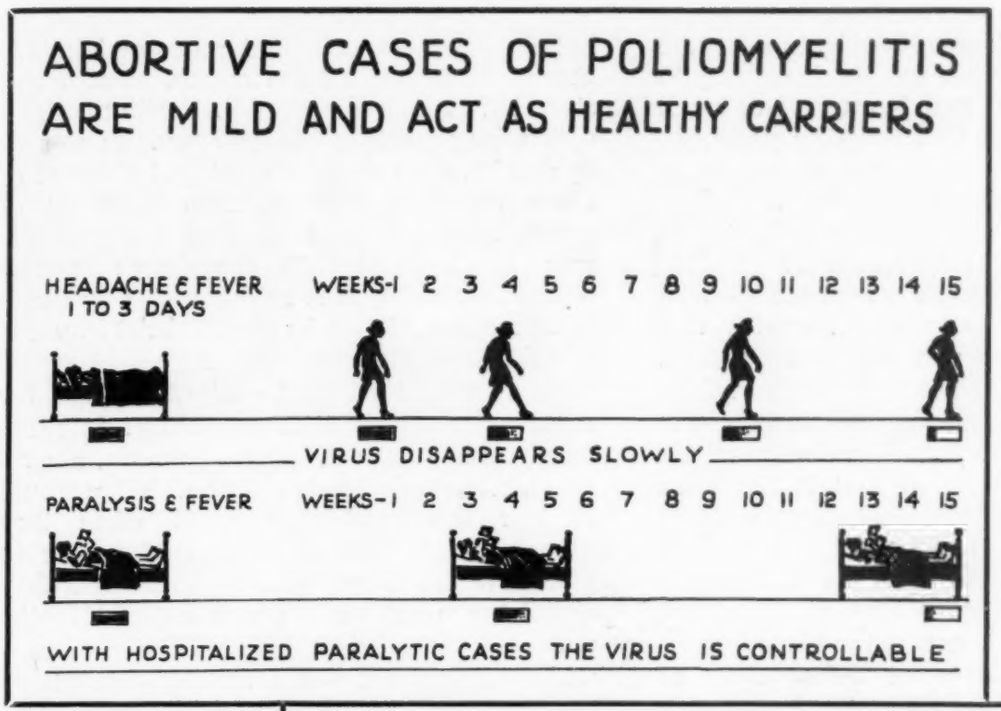
INFANTILE PARALYSIS

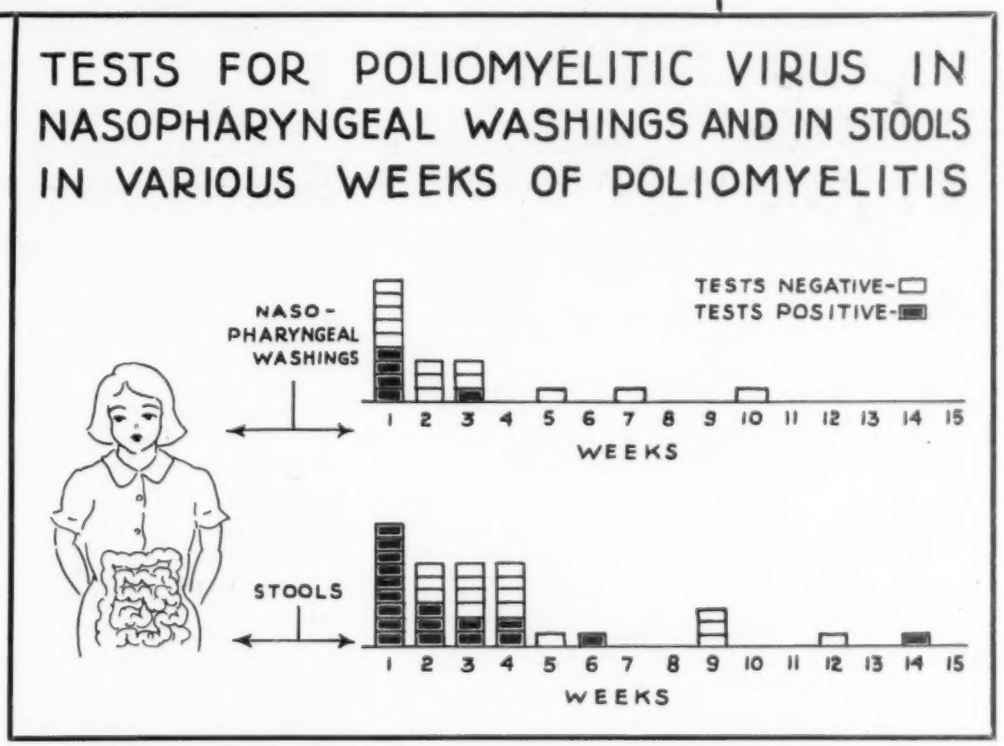
The newly isolated pure chemical vitamins give our infantile paralysis research men powerful tools that are already beginning to solve the secrets of natural immunity

By PAUL deKRUIF

THE QUESTIONS asked by parents about infantile paralysis are as simple as they are fundamental. In case my child is attacked, is there a drug that will save his life or prevent his permanent paralysis? To this, men of medical science and physicians must still answer no. In the event of an epidemic, is there a way to prevent the general spread of infantile paralysis in a community? Public health officials, too, have only a negative answer. During an epidemic, is there a way in which we can guard our own children from infantile paralysis? Again, it is generally agreed by public health men and physicians that there is no reliable means of guarding children against this infection. This must be faced: After thirty years of research, in the laboratory and in the field, knowledge assuring the prevention, control, or cure of this mysterious disease is not yet available.

This too must be admitted: Again and again, our hopes for prevention by vaccines or nose


ABORTIVE CASES OF POLIOMYELITIS ARE MILD AND ACT AS HEALTHY CARRIERS
HEADACHE & FEVER 1 TO 3 DAYS
WEEKS-1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
VIRUS DISAPPEARS SLOWLY
PARALYSIS & FEVER
WEEKS-1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
WITH HOSPITALIZED PARALYTIC CASES THE VIRUS IS CONTROLLABLE


TESTS FOR POLIOMYELITIC VIRUS IN NASOPHARYNGEAL WASHINGS AND IN STOOLS IN VARIOUS WEEKS OF POLIOMYELITIS
TESTS NEGATIVE-
TESTS POSITIVE-
NASO-PHARYNGEAL WASHINGS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
WEEKS
STOOLS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
WEEKS

sprays, and for cure by serums, have been disappointed. Does this mean that the paralytic plague must forever remain an enigma? By no means. After all, during the past thirty years, the efforts of our men of science were scattered, hampered by lack of money, and to some extent hit-or-miss. But today sees a real intensification of attack on this mystery. There is now an unprecedented concentration of research on infantile paralysis, both at the laboratory bench and in the field by public health men and physicians.

Before medical science can find the truth that will conquer infantile paralysis, it must find out what is *not* so about this sickness. In this field, great progress has been made during the past year. For a long while it was a general scientific consensus that the disease spread from person to person by contact, or by droplets sprayed from the nose and mouth,

invading the victim by way of the nose via the nerves of smell. Now, investigators at the University of Cincinnati, and independently in Australia, have examined the nerves of smell of many persons dead of infantile paralysis. They have found no evidence that the plague uses this gateway into human beings.

How then does the virus get in to do its paralyzing or deadly mischief? During 1939 and 1940, our laboratory men made—with monkeys and chimpanzees—discoveries that may bring a solution of the human mystery. The Australian researcher and his co-workers used a monkey, *Macacus cynomolgus,* not ordinarily employed by infantile paralysis investigators. They found that if the virus is swabbed on the tonsils of these animals they contract the disease. An American scientist has just produced fatal infantile paralysis in the monkey that is ordinarily used, *Macacus rhesus,* by injecting the virus into its tonsils. Other doctors at Johns Hopkins University have caused typical infantile paralysis in chimpanzees by simply putting diseased material into their mouths and into their stomachs. And it is known that the chimpanzee is more closely related to man than is the ordinary monkey. To bring this laboratory science closer home to human beings, it has recently been discovered that the attack rate of infantile paralysis is definitely higher in persons who have had their tonsils removed, than in those who have not had this operation.

If the virus does go into human beings by way of their mouths, where does the virus come from? How does it go out of the human body, since, so far as we know, only human beings harbor the subvisible microbe of this sickness? A Michigan doctor has demonstrated the virus in the intestinal discharges, not only of children who have acute infantile paralysis, but also in the intestinal contents of persons in close contact with them. And he has proved that the paralytic terror can live as long as six months in such discharges. And still other doctors have actually found the virus in the sewage of two large cities during epidemics of infantile paralysis. At the same time it has been proved that chlorine, in a strength ordinarily used to disinfect city water, does not kill the infantile paralysis virus when in contact with it for an hour and a half.

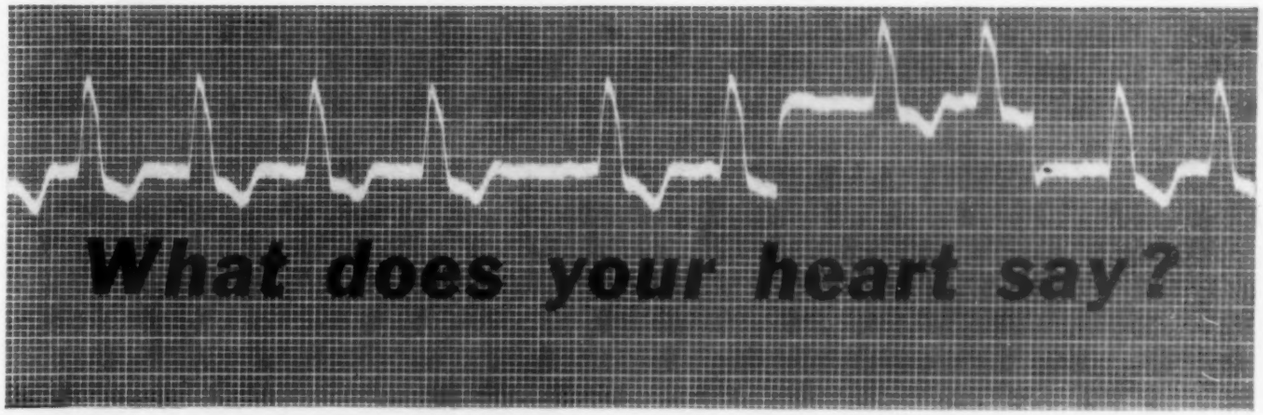
Does this mean that our laboratory men at last have the answer for which the public health men—and parents!—have so long been waiting? In short, does the virus leave humanity by the intestinal route and invade humanity by way of the mouth, tonsils, and stomach? It is for our public health men and epidemics experts to tell the story. In coming epidemics, rigorous treatment and disposal of sewage, and equally rigorous guarding of water, milk and food supplies will give the answer. A great field experiment is now demanded, and this is now possible by funds to be made available by the National Foundation for Infantile Paralysis.

Hopes should yet not be raised too high, for there remains this grim possibility: Infantile paralysis is not, in the ordinary sense, a communicable, an epidemic sickness. What would be our searchers' dismay, if, when they examined intestinal discharges of people in places where there was no epidemic, they found the virus? Is it possible that infantile paralysis virus exists—like cold sore virus—widespread at all times in our population? To light up into disease by influences still unknown, mysterious? Then sanitary measures would be in vain.

Even then, our virus hunters would not give up the fight. Thanks to the United States Public Health Service the virus of the disease has now been passed not only to cotton rats but to white mice—one hundredth the price of monkeys, and infinitely easier to handle. Supported by funds from the National Foundation for Infantile Paralysis, searchers are now looking for a chemical—like the powerful sulfanilamide—to cure this sickness. Realizing the infinite variety of organic chemicals it is now in the power of our chemists to prepare, only incurable pessimists would predict that some such drug will not be found.

What is it that makes one child susceptible to the plague while a hundred remain exempt? Is there some deep chemical difference between susceptible and resistant children? The newly isolated pure chemical vitamins give our searchers powerful tools that are already beginning to let in a gleam of light into the how and wherefore of natural immunity to microbes. The National Foundation for Infantile Paralysis is sponsoring projects to determine the relationship between nutrition and infectious diseases—with possible future reference to infantile paralysis.

So, should our epidemics experts again be foiled, these two last-mentioned flanking attacks against the malady show that the men of science have not lost hope.



By LOUIS F. BISHOP Jr. and RUTH V. BENNETT

THE DOCTOR cannot always tell with certainty by counting the pulse at your wrist, by listening to your heart beat, or by tapping your chest, whether or not you have an ailment of the heart. Doctors of the past were often unable to diagnose disorders of this most vital organ as they may be diagnosed today. They could not remove your heart to watch it at work, for all hearts cease beating once they have been removed from the human body. Guinea pigs, too, were of little use, and rabbits became just dead rabbits when their hearts were removed.

Today the answer may sometimes be found in an electrocardiogram done by your doctor, for electrocardiography is the modern means of making soundings into the hitherto unknown depths of the heart.

Science has long sought some instrument that would pry into the amazing mechanism of the living human heart. Electricity furnished the answer with a machine to sound out the mystery inherent in the "rub-a-dub-dub" of this essential organ. Centuries of painstaking research throughout the world evolved the electrocardiograph.

A study of the heart is similar to that of an extremely complicated motor, designed to conform to extraordinary specifications. And when it is remembered that this motor must function in a limited space; that it must be quiet; that it must be self-adjusting, so that it may respond instantly to calls for heavier work and, conversely, to periods of inactivity; that it must make repairs without stopping, or becoming disconnected from its load; that it must operate continuously for a whole lifetime, it is obvious that its intricacies far surpass the most powerful and complex machine ever designed by man.

Physicists say that electrocardiography is a study of the direction, amplitude and time of a cardiac current expressed graphically. But let us see, in simple language, what is meant by an electrocardiogram or, as the technicians say, an "EKG".

The principle of the electrocardiograph is based on Einthoven's discovery of the "string" galvanometer in 1903. This instrument consists of a delicate thread of silvered quartz or platinum stretched between the poles of a strong magnet. When a current, even infinitesimally small, is passed through this thread, it shows a movement which can be magnified and photographed.

Scientists have long known that contracting muscle fibers produce an electrical force, electrically negative at the end of the muscle which begins to contract first. By means of suitably non-polarized electrodes or "leads" attached to the patient's body, even the small currents caused by the contraction of the heart muscles can be observed by this extremely sensitive galvanometer. Thus, by combining this instrument with a timing device and a simplified motion picture camera, a photographic record of the electrical energy created by the muscles of the heart can be recorded. This combined mechanism is the electrocardiograph, while the photographic record is an electrocardiogram.

Research workers have estimated that a human heart, in two centuries of constant beating, would only produce enough current to light a flashlight bulb for approximately one second. But, amazingly, the galvanometer is so sensitive that it can measure accurately

The electrocardiograph is so sensitive that it can measure accurately even the minute current generated by the contraction of heart muscles.

even the minute force created by the contraction of a single set of heart muscles. However, to make these minute deflections visible, mirrors and lenses are employed to magnify considerably the action of the string.

The moving film, on which the movement of the string is projected, is finely crosshatched with both vertical and horizontal lines. And both have a significance: The horizontal lines represent the force or amplitude of the current generated by the muscle, while the vertical lines record time intervals between similar contractions. By comparing the amplitude of the current with the amount of elapsed time between similar contractions, abnormalities and irregularities of heart action may be observed.

But marked deviations are not always indicative of faulty heart action, for currents generated by voluntary muscle action may also be "picked up" by the galvanometer and reproduced on the record as an amplified current produced by the heart. A complete state of relaxation is essential for an accurate record.

To collect these currents produced by the contraction of heart muscles, four conventional "leads" or electrodes have been established: The first lead measures the current as it passes across and through the heart, from one wrist to the other; the second collects the potential energy as it is produced in the axis of the heart, between the right arm and the left leg; the third records the force generated by the left side of the heart, from the left arm to the left leg; and, recently, the fourth lead has been developed to indicate the electricity originating between the heart and some other part of the body.

Every one has an individualized, characteristic picture, and the record of no two persons is alike. These records may be kept and compared with electrocardiograms taken at a later date to determine developing heart irregularities.

The electrocardiograph has made it possible to diagnose borderline cases with greater accuracy, but it should not be relied on entirely in preference to established clinical methods. Its method is essentially supplementary, for while it has revealed diseased conditions which were unobserved by other methods, it has also produced a normal picture in cases of serious disability.

Electrocardiography is not an exact science like mathematics, but neither is it a pseudo-science. There is more to an electrocardiogram than first meets the eye. In future experimentation, judging from recent advances, more and more will be revealed about the vagaries of heart action.

Einthoven is said to be the father of electrocardiography as we know it today, but the immense scope of research into the field of electricity really originated in 600 B. C. when Thales first noted static electricity. He referred in his writings to the fact that amber, when rubbed, attracted dry, light bodies.

Later Herodotus and Aristotle; and later still Humboldt, Hunter and Faraday experimented along the lines of observation by Thales. But it was not until 1600 that Gilbert, an Englishman, published "De Arte Magnetica" in which he listed other substances which he found to have the same properties as hard amber.

In 1737 the wise Italian, Galvani, had progressed from an interest in amber to the study of frogs' legs. He found that frogs' legs could be made to move by the application of small amounts of electricity, even though they had been severed from the body. By 1786 Galvani knew much about the electrical properties of nerves and muscles, and also had perfected his galvanometer. He was then able to show that an interrelationship existed between muscular action and electricity. Literally, he was able to make frogs' legs jump without the frogs: By hanging the legs on an iron railing so that the muscles were grounded, he simulated a life-like movement of the legs by applying a small electrical charge to the opposite end of the muscles.

It was not until the experiments of Dubois-Raymond, however, that extraneous electrical currents were found not to be the only evidence of electrical phenomena in muscular contraction: The contraction of the muscle itself produced a small electrical charge. In 1745 Volta also experimented with frogs' legs, and out of the genius of his labors emerged the embryo of the modern battery. Ohm, a German, followed in 1787 with a method for measuring electrical resistance; and was followed in 1791 by Faraday, an Englishman, who formulated the theories of polarity and developed the concepts of magnetism. And in 1827 an Italian, Nobili, presented his deviation needle to the world of physicists.

But this tortuous maze of physical knowledge was essential before Einthoven in Holland in 1903 could correlate this information to produce his string galvanometer, the basis of the modern electrocardiograph.

It was but another step to "harness" the currents developed by the muscles of the heart to this sensitive machine. Further improvements, of course, have taken place but the essential discoveries had been made and correlated. The evolution of graphic records, as well as their standardization soon followed.

When the first electrocardiograph was brought to America in the early 1920s it was cumbersome and difficult to operate. New methods of attaching the leads to the patient were soon discovered, and by 1930 physicians were giving new meanings to these graphic records of heart action. The cost of the machine has been lowered considerably; its efficiency has been perfected; its weight has been reduced from a quarter of a ton to 30 pounds; supplies are easy to obtain, and the control board now looks like that of a modern radio.

In the early '20s electrocardiographs were owned by only a few hospitals and by fewer physicians. But now graduate physicians are taking courses in the interpretation of electrocardiograms, and electrocardiographs have become common as standard office equipment.

The autograph of the heart made by an electrocardiogram is an interesting and variable record, for the heart writes its own story, and thus, indirectly, it writes the story of the whole body.

This spark of knowledge continues to brighten as the years unfold. Engineers will continue to perfect this machine, and physicians will further interpret and analyze the vagaries of the heart waves. Physicians and physicists are the explorers, beckoned on by potential conquest.

The patient, most concerned of all, is scarcely able to appreciate the skills and imagination that have been combined to stave off death and make a more normal life possible for any one with a heart ailment.

Educating the Handicapped

By FRANK L. BEALS

TODAY there is much argument and discussion about the education of exceptional children, as well as about the education of normal children. We hear a great deal about individual differences, and if individual differences mean anything anywhere, they mean a great deal in the field of special education. In this field the controversy centers about whether or not children should be segregated for educational purposes. Almost all educators are agreed that the child who can be taught satisfactorily with a group is considered normal, and that he should, therefore, be educated with the group. But when

For handicapped children, the school is in a hospital. Here even those who can learn more readily by doing are educated. The initial principle of this form of education is based on the necessity of coordinating physical and mental expansion.

a child deviates from the typical to a point at which he cannot reasonably well be taught with a group, it becomes necessary to teach him in a class designed to meet his peculiar needs.

However, there are two schools of thought concerning segregation. One group maintains that since the child will live and associate with normal people, he should begin this kind of education at the earliest possible age. But the people who argue against segregation do not really know the problem, nor do they know the problems with which handicapped young people are faced.

The child who is crippled, i. e., orthopedically handicapped, is often unable to move about freely, especially in a crowded elementary or high school, and, because of this restriction, he is denied the privilege of acquiring real experience and first-hand information, as does the able-bodied child. When the sphere of experience is limited to what can be acquired from a wheelchair, the chance to obtain information is far less than that of the normal child. The child on crutches is just as much handicapped as is the child in a wheelchair. The child who suffers from spastic paralysis, provided his affliction is at all severe, is also handicapped and should be in a special school in order that he will not be subjected to the jibes and misunderstandings of other children. Of the children who are physically handicapped the spastic is probably most to be pitied. The very nature of his affliction makes it all but impossible for him to attend classes in a normal school. He requires special physical treatment. For a long time it was felt that little could be done for the sufferer from spastic paralysis, but we know now that behind the lack of muscular control may lie a mind which is brilliant and which is capable of being developed to a maximum of usefulness. The spastic cannot be expected to make public the uncontrolled movements of overstimulated muscles which indicate motor incapacity, but which may not indicate mental incapacity, as he would have to do in a regular school. The conflict produced by an effective mind and an ineffective musculature requires special treatment and special educational consideration.

The child who suffers from the after-effects of infantile paralysis requires special physical as well as educational consideration. Along with his altered physical makeup comes an altered personality which cannot be properly dealt with in a normal group situation.

The child who suffers from a serious heart affliction, of all the physically handicapped

children, requires special physical care along with his educational treatment. He must have rest periods during the day; he must not be permitted to overtax his heart, and he must be attended by a nurse who can take his temperature at frequent intervals, and who can interpret any sudden change of temperature.

All physically handicapped children must be brought to realize the position they will occupy in the social and vocational world. The time during which they are making adjustments to this realization is one of great emotional disturbance for them. In fact, the situation is so grave for these children that they must have help and guidance from a teacher who has complete, intimate, and sympathetic understanding of these problems.

It has been said that since the crippled child will be a crippled adult, and as such he will be associated with normal people, his association in childhood should be with normal children. However, if he is afflicted in any of the ways that have been mentioned, it is not possible for him to receive an education in large classes for normal children. The physically handicapped child must be trained in many things, and he must learn that he cannot trade on his physical defect, which he will learn to do if forced to compete with normal children. In other words, he must become emotionally balanced and mature.

It may be argued that the number of those afflicted with the ailments that have been named is small. But the number is not so small when viewed in the light of the Report of the White House Conference. This Report says that there are 300,000 crippled children in the United States and that 100,000 of them need special education, and further, that only 11,500 are enrolled in special schools. The estimate further states that there are approximately one million children who have weak or damaged hearts, and that 375,000 of these have serious organic heart diseases.

Within the past ten years there has been a sharp change in the percentages represented in the different groups of physically handicapped children. Ten years ago in the schools for crippled children in Chicago, the victims of infantile paralysis made up 35 per cent of the

membership; 19 per cent suffered from spastic paralysis; and 13 per cent were rated as cardiacs. Today the percentages are reversed: 27.3 per cent of the children in the schools for the crippled are rated as cardiacs; 24.2 per cent as spastics, and 16.8 per cent suffering from the after-effects of infantile paralysis. All of these children require a special kind of care which could not possibly be provided for them in the regular schools. In the education of all physically handicapped children it is necessary that classes be kept small. The reasons why children who compose these classes could not successfully attend the larger classes in regular schools are that classes are interrupted frequently for treatments, for care by the nurses, for rest periods, for trips to the clinic and other necessary breaks in classroom routine. It is evident that the care and educational treatment necessary for crippled children demands that they be segregated from normal children. There is no other way in which they can be educated successfully.

Complete segregation is not necessarily desirable for all types of handicaps, such as the education of the blind and partially sighted. For certain parts of their instruction these children need to be separated into special classes so that they can be trained in the skills which are necessary to enable them to compensate for, or to overcome, their handicaps. But as often as possible they should be programmed with the regular classes for recitations. It is necessary that the blind be taught to write Braille, to read Braille, and to use a typewriter. They must also have access to that wonderful new device which has been provided for them, the "talking book." It is necessary that they have some one to read to them. None of these things can be done in the regular classroom, but these children can and do attend regular classes for recitations.

Another illustration is the education of the deaf. If the child is born deaf, his early training is a long and tedious process and cannot be accomplished in a classroom with normal children. The child must be taught speech and lip reading, and this requires segregation because deaf children can only be taught in small groups of 7 or 8. The hard of hearing children must also be taught lip reading, and they should have the use of electrical hearing aids. Of course, when a child has an individual aid which he carries about with him all the time, he may attend the regular classes. However, all deaf children, after they have reached a certain stage in their educational development, may and do attend the regular normal classes with profit.

Some persons say that children who are mentally defective, or retarded, should be segregated in special classes only long enough to enable them to catch up with children in the normal grades, and that when they do this they should be returned to the regular classes. But these persons have little understanding of the education of a mental defective. In the first place, the child is retarded because he cannot do the work of the regular grade. To expect him to overcome this tremendous handicap and then go on with children in the regular grades is expecting too much. The mentally defective requires a special type of teaching by a teacher who has been trained in this field. He requires special instructional materials which cannot be furnished in the regular classroom.

Whenever a child deviates from the normal to a point at which he cannot be taught with the normal group, he then requires special educational treatment which cannot be given him in that group. This means that the deviation on the part of any child shall be so marked as to set him apart from the other children. It does not include those many minor deviations which are discernible by the teacher and measurable by the physician, psychologist, or social worker, but which are not classifiable as educationally exceptional so long as the children can be satisfactorily carried along and instructed with the normal class. We must remember, also, that when a child deviates sufficiently from the norm for his group, it means pain and suffering for him if he is forced to remain a member of the group. It is necessary for him to be taught by a teacher who can minimize the deviation to the lowest possible degree. The child must be taught to develop compensating abilities.

But, Who are exceptional children? and What children are exceptional? The answer is that those children who require actual differentiation of the educational processes are exceptional, and if children require differentiation of the educational processes they are different and require different educational procedures. Many children are physically, but not educationally, exceptional. They may require special physical care but not differentiated education.

Next month Frank L. Beals, assistant superintendent of Chicago schools, will conclude this article on specialized education for exceptional children.

The Restless Colon

. . . . an authoritative "inside" story
told by **FRANK C. YEOMANS**

THE COLON is an internal organ and, like other internal organs when functioning or working normally, gives no sign or symptom of its presence. For example, the heart beats continuously, but it seldom presents evidence of its existence unless it is diseased. The sound gallbladder and liver regularly pour bile into the intestinal tract without a murmur. The stomach performs its arduous task without special emphasis on its presence, unless we abuse it by indiscretions in eating, or overindulgence in drinking. Likewise, the colon works in silence until its function is affected, directly or, reflexly, by disease.

The gastrointestinal tract, like Caesar's ancient Gaul, is divided into three parts, namely, the stomach, the small intestine and the large intestine or colon—all forming a continuous canal.

An essential function of the stomach is to prepare ingested food for digestion in, and assimilation from, the small intestine, which is about 22 feet in length. The residue is passed on into the colon, the final portion of the gastrointestinal tract.

A major portion of digestion takes place in the small intestine, and, fortunately, the small intestine is less prone to disease than is the stomach or the colon.

The colon is a neuro-muscular tube about 4½ feet in length. Its diameter varies from 1½ to 2½ inches, and in the normal adult it has a capacity of about 5 pints.

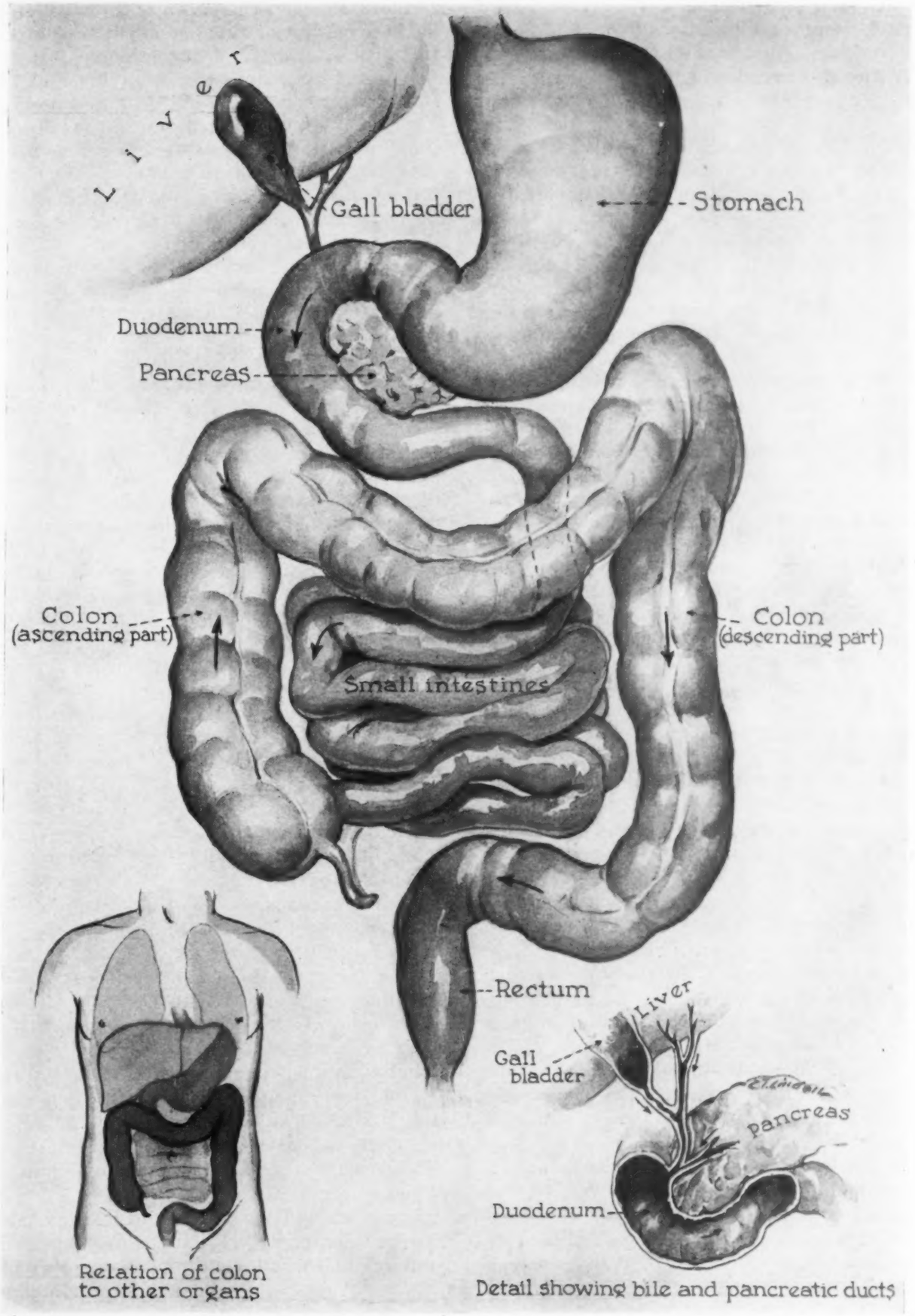
Usually, the colon is arranged within the abdomen in the form of a capital "M." It is supported by a membrane called the mesentery. The colon begins at the right side of the lower abdomen, ascends to the liver, then passes across the abdominal cavity as the transverse colon, to finally descend on the left side, making its exit through the rectum. However, the length of the colon varies within broad limits, as also does its mesentery. These anatomical variations are a basis for certain disturbances of the colonic function. And near its origin at the right lower quadrant of the abdominal cavity is the appendix.

In function, the right half of the colon differs from the left. The right portion of the colon receives, from the small intestine and in a fluid state, the products of digestion and the residue of food already acted upon by the stomach and the small intestine. It also receives bile, pancreatic juices and myriads of minute organisms called bacteria. This segment absorbs most of the liquid and nutritious material from its contents and passes on the semi-solid residue to the left colon by muscular contractions. Here, the contents are further solidified and stored until they are eliminated.

The stomach and the intestines form a continuous tract and they are closely associated by their blood and nerve supply. Normally, the colon is restless in that waves of contraction of its muscular coat are constantly occurring. These contractions are very mild when we are at rest, when the colonic contents are non-irritating, and when disease is absent. However, because of its size and irregular formation, the many and varied kinds of residue it receives, and the ever present host of bacteria, both those normally present and beneficial, and the harmful disease breeders frequently taken in with the food and drink, the colon is subject to many diseases. These are chiefly inflammatory in nature, producing various types of colitis.

The chief symptoms of the restless colon are excessive gas formation and rumbling within the lower abdomen; distention of the abdomen; pain, or other manifestations of abnormal function; progressive constipation, requiring laxatives of increasing strength; pain, with or without protrusion at the time of elimination; and loss of weight and anemia, as evidenced by pallor and weakness.

Normally, elimination should occur at least once and preferably twice every twenty-four



Relation of colon to other organs

Detail showing bile and pancreatic ducts

hours. Long retention of waste products frequently results in the absorption of harmful materials or toxins, manifested by headaches, drowsiness, depression and reflex gastric disturbances, such as loss of appetite, nausea and heart burn. Constipation may be atonic, as when the bowel musculature is relaxed; spastic, due to over-contraction of the muscles; mechanical, the result of adhesions or displacements of the bowels; reflex from rectal diseases; or it may be organic, or caused by improper function of the endocrine glands, or by diseases of the liver. Organic obstruction by tumors, especially cancer; and by stricture, usually the result of ulcers, is commonly marked by progressive constipation.

Many factors affect the function of the colon. Normally, waves of contraction, known as peristalsis, occur in a regular and harmonious manner. These waves are of two kinds—short and long. The frequent, short waves agitate the contents of the colon, thus aiding in the absorption of the contained fluids, while the less frequent large contractions push the bowel contents forward.

On a calm day, gentle ripples of the sea, with occasional larger swells, wash the sand in harmonious rhythm; but when the storm comes, the sea is lashed to fury and combers and breakers roll in on the beach in reckless abandon and without order. Similarly, the orderly rhythm of the colon may be disturbed by influences acting from within or without.

The residue of undigested food, spoiled food, or articles of diet which disagree may cause acute or chronic irritation; and certain organisms may cause inflammation and ulceration of a simple, or a specific character, which may be acute or chronic. Examples of specific infections are amebic colitis, bacillary dysentery, and tuberculosis or syphilis of the colon, all of which can be diagnosed by suitable physical and laboratory examinations.

Two opposite conditions of the musculature may affect normal peristalsis, namely, atony and spasm. In constitutional asthenia, a state of general bodily weakness, the abdominal muscles are relaxed. The muscle coat of the bowel wall itself is so relaxed or atonic that its contractions are feeble and insufficient to propel the intestinal contents. Conversely, the muscles may be in a constant state of spasm or contraction, as seen in "nervous" individuals who have attacks of pain and, at times, expel masses of mucus, a condition known as mucous colitis.

Another factor of importance is food allergy, an idiosyncrasy or peculiar sensitivity to certain articles of diet. Most commonly, it manifests itself by itching wheals or hives of the skin, but allergy may produce the same type of changes in the sensitive mucous membrane lining the colon. The resulting digestive upset may simulate an acute surgical condition of the abdomen, notably acute appendicitis.

Since constant pain, frequently spasmodic in nature, is characteristic of the atonic and the spastic colon, and of food allegy, the erroneous diagnosis of chronic appendicitis has occasionally been made and, in some instances, the appendix has been removed without relief. Extensive clinical experience demonstrates that very few persons over 25 years of age have chronic appendicitis, unless previously they have had one or more acute attacks.

Other rather common abdominal diseases and conditions that may simulate chronic appendicitis are ulcer of the stomach, inflammation and stones of the gallbladder, intestinal adhesions, colitis, tuberculosis or cancer of the colon, hernia and diseased conditions of the kidneys and the pelvic organs. This wide range of diseases, causing symptoms which mimic chronic appendicitis, shows clearly that a thorough study is necessary in order to reach a correct conclusion.

Of course, an attack of acute appendicitis may develop in the presence of any of these conditions and require prompt surgical intervention. It then becomes necessary for the physician and the surgeon in consultation to determine the action to be taken. A carefully taken history will usually point to the correct diagnosis and avoid the error of operation in the purely medical condition of food allergy.

The vitamins are of vital importance for the normal functioning of the digestive organs. One of the newest and most fruitful fields of scientific research in nutritional deficiency states concerns the vitamins. But since this study is largely incomplete, it is advisable to obtain vitamins from standard and easily procurable natural food, rather than from capsules of unknown composition, purchased at the cosmetic counter of a department store. A balanced diet supplies vitamins in quantities adequate for normal health.

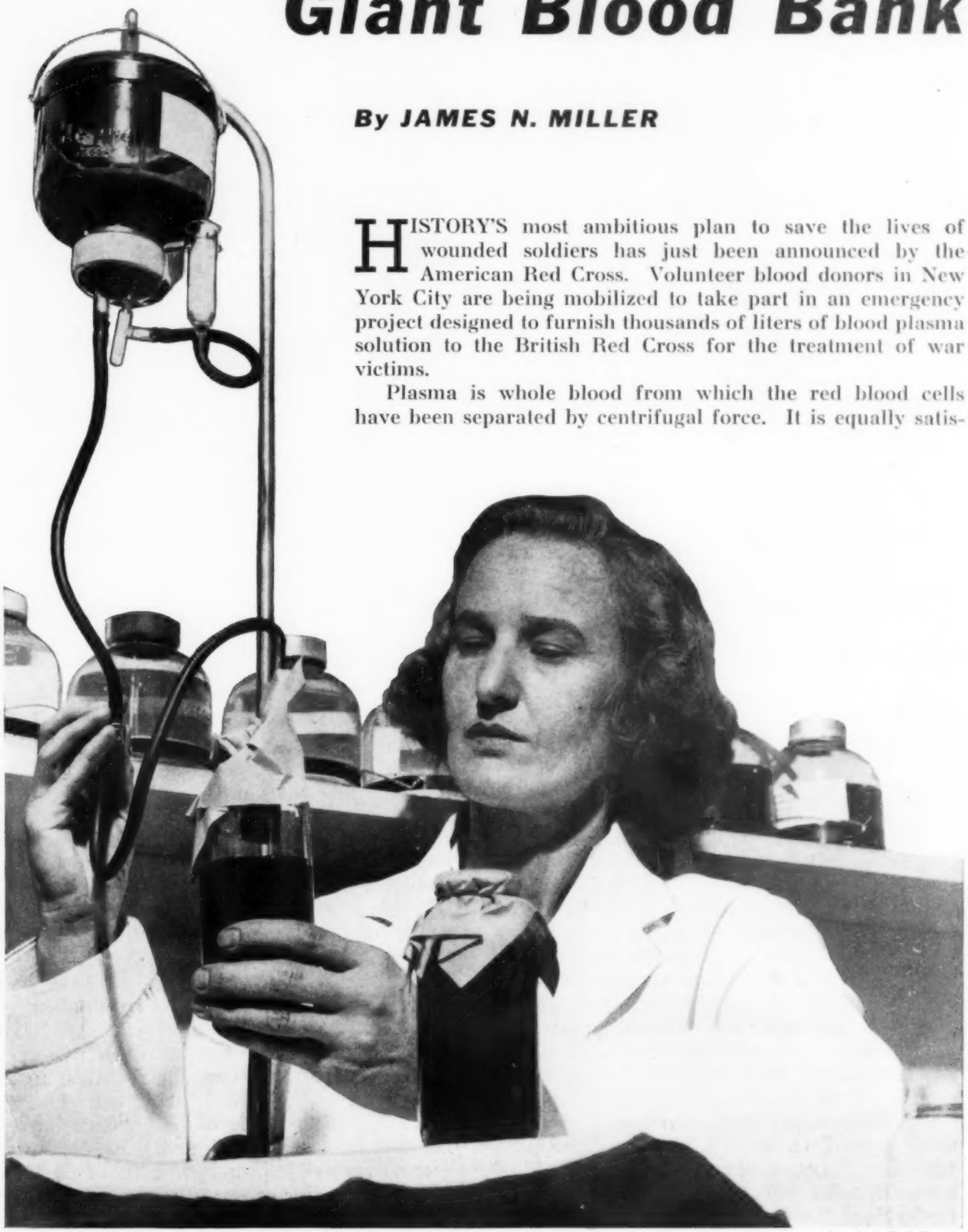
If you are suffering from a deficiency state, for the relief of which vitamins are indicated, you should consult your physician. He will prescribe the special vitamin or combination of vitamins needed for *(Continued on page 138)*

Giant Blood Bank

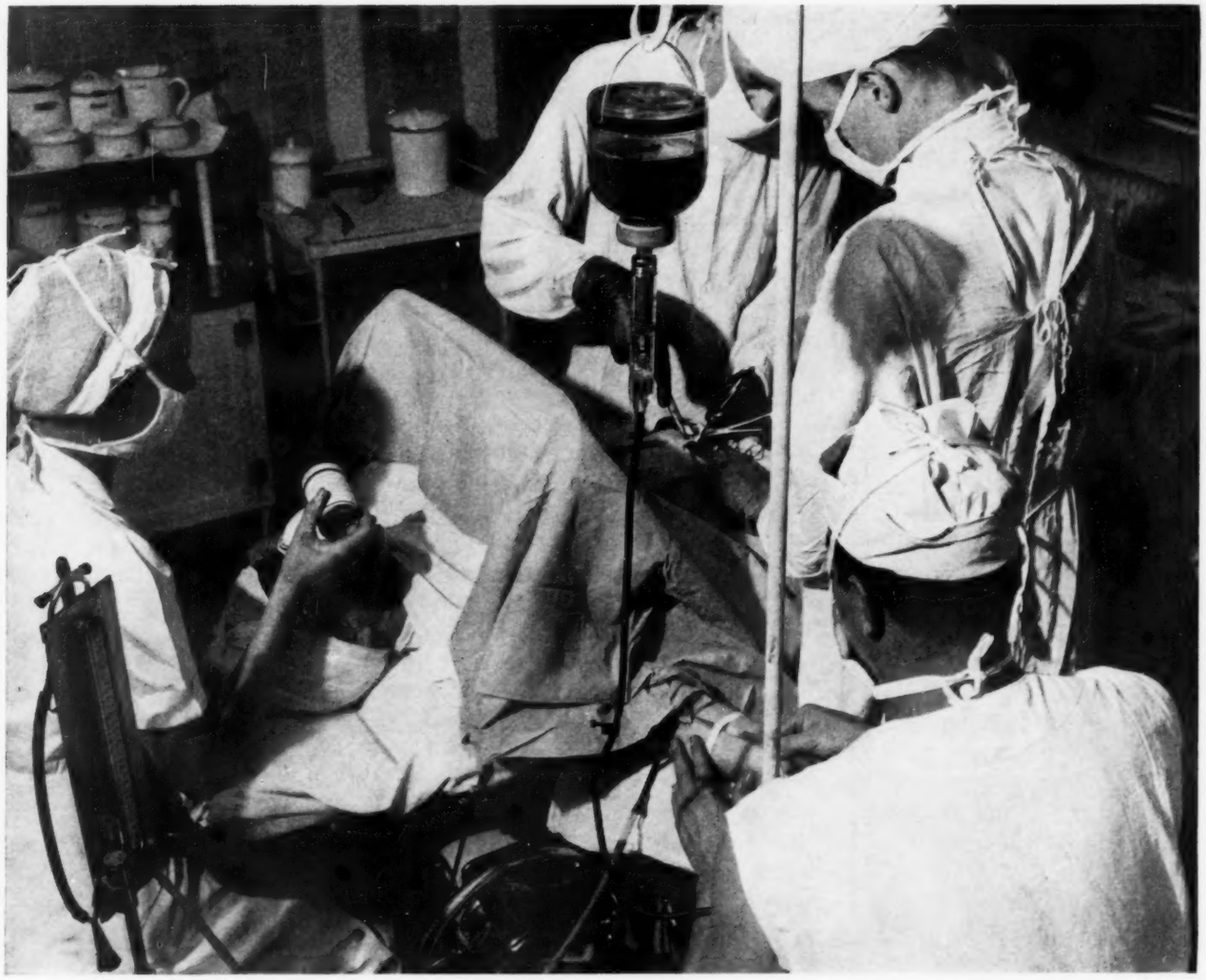
By JAMES N. MILLER

HISTORY'S most ambitious plan to save the lives of wounded soldiers has just been announced by the American Red Cross. Volunteer blood donors in New York City are being mobilized to take part in an emergency project designed to furnish thousands of liters of blood plasma solution to the British Red Cross for the treatment of war victims.

Plasma is whole blood from which the red blood cells have been separated by centrifugal force. It is equally satis-



American Red Cross



Plasma, or the blood from which it is derived, increases the patient's volume of blood supply, raises his blood pressure, and stimulates disease resisting bodies.

factory in the treatment of hemorrhage and shock, the chief factors in military fatalities. It keeps indefinitely and, unlike whole blood, can be moved about freely without damage or deterioration.

What the new plan will mean to Great Britain, to the United States, and to the world at large, can scarcely be exaggerated. It will save the lives of thousands, perhaps millions, of British fighting men. In case we enter the war it will give us the greatest emergency blood "bank" in all history, besides developing new technics which doubtless will save thousands of lives in this country during peacetime.

Gunshot wounds of the abdomen remain in modern warfare, as in all wars of the past 100 years, the most effective method of killing men. British army surgeons will find the Red Cross blood banks more valuable than x-rays for handling gunshot wounds, our medical technicians are now convinced. Taking time for x-rays to locate the bullet probably does more harm than good because of the delay involved. Blood transfusions are especially valuable because the greatest single factor in death from gunshot wounds is the amount of blood lost. Of 112 injured British soldiers who had severe hemorrhages recently, 83 per cent died, most of them because it required hours to give them hospitalization; and even then enough blood for effective transfusion was not available, according to an official British medical survey.

Blood transfusion is of tremendous importance to all branches of medicine. Most surgeons, as is well known, have used it from time to time in major crises. However, few of us realize to what a widespread degree the

method is applicable to medical as well as surgical cases. In fact, medical technicians agree that it is not used by any means as much as it deserves.

Blood, or its plasma, supplies several important functions. It increases volume, raises blood pressure, supplies new oxygen carrying cells, increases coagulation or shortens abnormal bleeding time such as occurs in purpura hemorrhagica, a serious bleeding disease of newborn babies.

In diseases associated with jaundice it has been used with lifesaving results. Repeated transfusions are of value in chronic infections in two ways: to replace lost blood and to stimulate antibody (disease resisting bodies in the blood stream) formation. Blood infections are associated with an extremely rapid fall of hemoglobin and red cells. Dramatic results have been noted often in acute hemorrhage, incomplete abortion, ruptured liver and bleeding ulcer.

Actually, the Red Cross blood plasma will serve as direct food to dying soldiers. For it contains all the important protein elements in a form ready for immediate assimilation. Thus, wounded fighting men will get the quickest possible nourishment, strength and vitality.

Chairman Norman H. Davis of the Red Cross explains that the new project will be conducted in cooperation with the Blood Transfusion Betterment Association of New York which will assume responsibility for the technical and scientific aspects of the program. For its part, the Red Cross will mobilize thousands of volunteer donors in New York and take charge of shipping the plasma to Great Britain.

Announcement of the plan to aid the British Red Cross came following completion of experimental plans looking toward the organization of a nation-wide corps of Red Cross volunteer blood donors whose plasma, at the request of the United States Surgeon General, would be made available to the United States Army Medical Corps for national emergencies. The latter project now is under way in four cities where donors are being registered to participate in a preliminary study to perfect methods of collection, storage and transportation. Centers have been organized at Bryn Mawr Hospital in a suburb of Philadelphia; University of Michigan Hospital, Ann Arbor, Mich.; Vanderbilt University Hospital, Nashville, Tenn., and University of Iowa Hospital, Iowa City.

The domestic blood donor program has been approved by the American Red Cross Medical and Health Advisory Committee, headed by David L. Edsall, former dean of the Harvard Medical School. William DeKleine, National Medical Adviser of the American Red Cross, is working out the practical details with the National Research Council, with headquarters in Washington.

Action of the project to send blood plasma abroad came following an appeal from the British Red Cross, Mr. Davis says. The Blood Transfusion Betterment Association offered its facilities in New York City (the world's finest) and assigned John Scudder of its staff, to assume responsibility for organizing the collection of the plasma from volunteers recruited by the Red Cross. It was emphasized that this program, while not connected with the domestic blood donor project, would furnish valuable experimental information for the latter.

Recent cables from Daniel Grant, Chairman of the American Red Cross Committee in London, stated that the British Red Cross informed him they could handle 300 liters, or roughly 330 quarts, of plasma weekly. This would mean that something like 1320 American volunteer donors would be required each week to supply plasma for their English cousins. Under average transfusion conditions a healthy donor supplies 500 cc., or about a pint of blood. Shipping of the plasma to England will be done via clipper plane, should emergency conditions warrant, Mr. Davis points out.

DeKleine explains that plasma will be used in place of whole blood because of its facility in shipping and storage. It keeps indefinitely and will not spoil if properly stored in sterile bottles. Unlike whole blood it can be moved without fear of deterioration. Typing of blood is not necessary in plasma transfusions as is the case in using whole blood.

Prospective donors will register with the New York Chapter of the Red Cross, 315 Lexington Avenue. Names, addresses and telephone numbers will be turned over to the special offices of the Blood Transfusion Betterment Association in the New York Academy of Medicine. Donors will be informed by telephone and mail where and when to report, along with appointment-day eating instructions and other physical care. Some twenty-four hospitals have offered their facilities and will turn over the plasma to the BTBA for processing and storage. *(Continued on page 119)*

Wallace W. Kirkland

Nursing is a normal human process. It stimulates a return of the uterus to normal size and serves other useful maternal functions. If properly conducted, nursing is both restful and strengthening.

Breast Feeding and the Doctor

By FRANK HOWARD RICHARDSON

DOCTORS used to say that any mother could nurse her baby if she wanted to. But frequently a mother who genuinely wanted to do so failed. Doctors now qualify this statement by adding the significant proviso: "Almost every mother can nurse her baby if she follows her doctor's directions."

While breast feeding is a self-sustaining process in many women, others have to make a definite effort if they are to continue to nurse their babies. Few mothers would fail to find it easier to continue this incomparably better way of nourishing their babies, if they were guided through the pitfalls and difficulties of this important period by a doctor who understands how to handle various situations as they arise. In almost every lactation, as the nursing period is called, there are times when breast feeding may fail, and only some one skilled in the art of breast-feeding can conserve this life-saving measure for the baby.

Is it so much better to nurse a baby than to bring it up on the bottle? Doctors and other health authorities have always been practically unanimous in their positive answer to this question.

The improvements that have been made in the production as well as in the marketing of milk, and the simplification of artificial feeding, have led to the belief that these advantages are no longer as great as they used to be.

A 5 year survey, begun in 1929, of 20,000 children in a Chicago infant welfare society has confirmed the superiority of breast feeding. Of these children, 48.5 per cent were entirely breast fed, 43 per cent were partially breast fed, and 8.5 per cent were artificially nursed. Carefully kept records during this period showed that there were 218 deaths, or a mortality rate of 1.1 per cent for the entire group. Of these 218 deaths, 6.7 per cent were in the breast fed group; 27.2 per cent in the partially breast fed group; and 66.1 per cent in the artificially fed group.

Also noted were corresponding similarities of percentages of illness among the babies of the three groups. More recent investigations indicate that the mortality statistics for breast fed babies versus babies nursed artificially has remained almost static. Apparently, the breast fed baby is still the best fed baby.

The question that every conscientious young mother asks herself, or, if she is wise, asks her doctor several months before her baby is born is this: "Can I nurse my baby?" And when he answers her that he is quite certain that she can, provided she will follow his directions, she probably questions: "How difficult is it going to be for me to do so?"

There is every reason why the young mother should ask these questions. Her friends are constantly telling her of mothers of their acquaintance who have had no milk; of others whose milk, what little they had, disagreed with their babies and caused colic; and of still others whose food "went to make fat instead of making milk." And she hears it solemnly averred that the doctors are saying that American mothers are actually losing the ability to nurse their babies.

Many otherwise intelligent young mothers wean their babies at the first sign of a diminishing milk supply; others never make the attempt to nurse at all, or stop trying after a day or two, and before the beginning function ever becomes firmly established.

These mothers do not realize that if they consult their physician he can show them how to use what they have, as well as develop a more generous supply; and in the meantime he will prescribe a formula to tide the baby over until the normal supply becomes adequate.

It is a most interesting fact that whenever a definite, intelligent, concerted effort has been made to encourage and teach mothers how to nurse their babies, it has been found possible to keep the great majority of babies on the breast. This was done by Sedgwick in Minneapolis; it was done more recently in Nassau County, New York, by the concerted action of the doctors of the county through their county medical society, and their state Department of Health; and it has been done in many other communities in various parts of the country since then.

These mothers consulted their doctors several months before their babies were scheduled to arrive; they have learned how to empty at least one breast completely at each nursing, either by the baby, or by a simple manipulation taught by the doctor, called "manual expression." This process is similar to what dairymen call "stripping," a process without which the milk-secreting glands often cease functioning and bring about premature bottle nursing. These mothers have also started for their babies the priceless habit of the periodic examination by a doctor, a habit which is doing so much to save life and defeat disease at all age levels. Incidentally, they have learned what a relief it is to be able to shift their health worries to the shoulders of the doctor, who alone is competent to bear them efficiently.

Here are some of the questions most commonly asked, together with the answers given by the doctor:

Q.—Suppose my milk doesn't agree with the baby?

A.—Experience shows that while artificial feedings do sometimes disagree with a baby, his mother's milk almost never does.

Q.—But I may not have enough milk for him; what then?

A.—Your doctor will give you a complementary (completing) feeding; this will satisfy him until, by following the doctor's directions, you have developed a supply that will take care of his needs.

Q.—My mother never could nurse her babies, and the same thing was true, they say, of my grandmother. How can I expect to reverse the laws of heredity, and nurse mine?

A.—Absence of milk is almost unknown in any mammal, even the human mammal. A woman may lose her milk supply through unintelligent management, but agalactia (lack of milk) seldom occurs. Three generations is too short a time for such a far-reaching mutation of species to occur.

Q.—But won't I be terribly confined by having to be at home the instant every feeding comes due?

A.—By no means; though you will find it convenient to be fairly punctual with his meal times, as you probably are with your own and your husband's. The complementary feeding can be made to serve as a substitute feeding any time it is necessary for you to be away from home. But with feedings only every four hours, that won't be too confining, will it?

Q.—How can I possibly stand the strain, the terrible drain of nursing? Won't I need all my strength for myself?

A.—Nursing is a natural process; it stimulates the return of the uterus to its normal size, and serves other useful maternal functions. If properly carried on, as it will be if if you follow your doctor's directions, you will find it not exhausting and fatiguing, but restful and actually strengthening.

Q.—Why should I go to all the bother of nursing, when bottle feeding is so easy and reliable?

A.—Bottle feeding may be both easy and reliable, or it may be neither. Breast feeding is both, if carried on under the doctor's supervision as it should be.

Q.—Won't I have to stuff myself with milk and other fattening things in order to have enough milk? Several of my friends have completely lost their figures by their nursing diet.

A.—"Stuffing" beyond the limits of normal appetite does not make milk. A glass of water half an hour before each nursing is a sufficient fluid intake. The doctor will see to it that no increase in weight over what is normal and desirable is permitted.

Q.—Why take a chance on breast feeding when artificial feeding is so generally employed?

A.—The "chance" is taken when you throw away the well-known, universally acknowledged benefits of breast feeding in exchange for the uncertainties and the lessened probabilities for life and health that accompany artificial feeding, no matter how well recommended it may be.

The author will discuss other phases of breast feeding in an early issue.

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WHOOPING COUGH is a highly contagious disease that strikes most savagely at babies less than two years old.

Nearly fifty per cent of all cases of whooping cough occur during the first two years of life . . . while two-thirds of the deaths it causes occur during the first year.

In addition to the terrible toll directly taken by this disease, it sometimes causes permanent heart damage and may lower resistance to pneumonia and tuberculosis.

It is spread by discharges from the nose and throat of those who have whooping cough — even in its earliest stages. So it is vitally important to do everything in your power to keep children, especially infants, away from any persons who cough or appear to have colds.

When to Suspect This Disease

The first signs of this enemy of the very young are so commonplace that all too frequently they go neglected.

They are the symptoms of many a common cold—running nose, a tight, dry cough, perhaps slight fever. But they should warn you to call your doctor immediately—particularly if the cough persists and grows worse at night.

When called in time, your doctor can do a great deal to relieve the child's distress. He will tell you how to isolate the child. He can help to guard against serious complications. He can advise when it is safe for the convalescent whooping cough patient to come in contact with others again, to resume play and school.

Protecting Others

Your doctor will also determine whether the use of vaccine or serum on other children is advisable to protect them. Physicians in increasing numbers report a favorable experience in immunizing children against whooping cough by these means.

To help parents protect their children, Metropolitan offers a newly revised free booklet called "Whooping Cough." Address Booklet Department 241-Z.

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Dreams have a Meaning

(Continued from page 90)

disease. He actually had certain heart symptoms for which he was afraid to be examined, and so he unconsciously shifted his fear from his heart to his lungs, which were perfectly normal.

He was finally forced to see a physician "about his lungs" and the physician found that he had heart disease. The patient concluded that his dream had foretold what was going to happen to him, but in reality the dream had merely expressed, in a disguised way, what his unconscious mind knew.

Analysis with the help of so-called dream books is entirely inaccurate. It is impossible for us to analyze our own dreams unless we have had technical training in psychologic analysis.

It is unwise to tell your dreams to other people for it is a little like reading them a letter written in a cipher or code which you do not understand but which they may be able to translate. For people's unconscious minds have an uncanny ability to get a rather clear impression of the meaning of another's dream, although they are unable to interpret it scientifically.

A clear, obvious example is that of an ambitious professor, anxious to succeed the college dean who was about to retire because of age. Meeting the dean one day, the professor said, "I had an interesting dream about you last night. I dreamed a king was sitting on his throne, wearing a golden crown and holding a sceptre in his hand. He was very old, his face was lined, his hair was falling out, and he was so weak that he could not hold the sceptre. It was slipping out of his hand.

"The funny thing," remarked the professor, "was that he reminded me of you."

It took no special psychological knowledge for the dean to realize what the professor was thinking about him.

Again it should be emphasized that dreams must not be accepted at their face value. If you dream that your best friend is dead, it

does not necessarily mean that he is ill or that you wish him dead. The real meaning of the dream is usually concealed.

Many people say, "Aren't dreams at least partly caused by indigestion, cold feet, or hard beds?" Yes, the dream may be provoked by some physical condition but its contents are not determined by this condition, but by wishes in the unconscious mind.

There is evidence that we probably dream all the time we are asleep, but that we remember only a few of these dreams.

Dreams are a safety valve. Life requires so many renunciations that must be compensated for, and dreams are the royal way in which this is accomplished. In dreams we can go back to our mother's arms again when we are tired and lonely; in dreams we can be rich and powerful, though awake we may be poor and weak. Though we sleep in hovels, our sleep may be made pleasant by "cloud-skirted dreams."

In dreams, we may retire into "some warm phantasmagoric chamber of the brain, with its painted windows and its storied walls," and there live over our happy childhood days in symbolic form, thus gaining strength, hope and faith to live another day.

THE FIFTH NATIONAL SOCIAL HYGIENE DAY

National Social Hygiene Day, one of America's leading public health events, will be observed for the fifth time on February 5, 1941.

This day will be the spearhead of a concerted drive to safeguard men in military and naval training camps and in essential industries from the ravages of venereal disease. An even greater effort is being made this year to reduce commercialized prostitution to a minimum, and to keep syphilis and gonorrhea infection rates as low as possible in army, navy and industrial defense personnel.

Five thousand community meetings will be held in all parts of the United States, with four regional conferences in Philadelphia, St. Louis, New Orleans and Los Angeles.

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2. "Don't put off till tomorrow what you can do today."

3. "Paddle your own canoe."

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Milk is an extremely important source of riboflavin, but an adequate supply in later life will not compensate for marked dificiencies during childhood.

Riboflavin

This article was written in the Office of the Council on Foods and Nutrition

RIBOFLAVIN is the name of the water-soluble vitamin that in years past has been called different terms, including vitamin G, vitamin B_2 and lactoflavin. The name riboflavin indicates that the vitamin contains a sugar called ribose and flavin, a yellow pigment containing nitrogen. This particular vitamin has been isolated and is even made synthetically. When crystals of riboflavin are examined under a microscope they look like clusters of yellow needles.

Riboflavin is present in many animal and plant foods. The greatest quantities of this vitamin are found in those plant and animal tissues in which the most active chemical changes take place, such as the leafy and germ portions of plants and the liver, kidney and heart organs.

Until recently, riboflavin was considered to be of minor importance in human nutrition, although the effects of profound deficiencies had been exhaustively studied in experimental animals. As a result of studies made on pellagra in human beings, it was observed that certain symptoms often found associated with pellagra could be alleviated only by the ingestion of large doses of riboflavin. This is not illogical because the diet of a

person with pellagra is notably lacking in milk, meats, eggs and green vegetables—foods rich in riboflavin.

Symptoms of riboflavin deficiency are collectively designated "ariboflavinosis" and are characterized by a "cheilosis" or inflammation and scaling around the corners of the mouth, a condition called "poor man's" mouth in some sections of the country; lesions around the nose and eyes and functional disturbances of the eye. Patients with "ariboflavinosis" respond to treatment with large doses of riboflavin.

Riboflavin deficiency probably results in profound alterations within the body, and it is known that riboflavin enters into important enzyme systems within the cells. In young experimental animals, riboflavin deficiency stunts growth and brings on early death.

The adult daily requirement for riboflavin is about 2,000 micrograms. The requirement of children and infants is somewhat less. Infants who are breast fed, or those who are given appropriately modified cow's milk, and children who receive 1½ pints of milk each day in addition to other foods, obtain sufficient amounts of this vitamin, because milk is the richest food source of riboflavin. The riboflavin content of a food is expressed frequently as micrograms of riboflavin per gram, or 100 grams of food. One quart of cow's milk contains about 2,000 micrograms of riboflavin.

The riboflavin content of foods is not as seriously affected by cooking as is vitamin C or vitamin B_1: riboflavin is often referred to as the heat-stable, water-soluble vitamin. Because riboflavin is soluble in water, foods which contain this vitamin should be cooked in as little water as possible, and after the food is cooked the cooking water should be used in soups, sauces or gravies.

Riboflavin is destroyed by strong sunlight. A practical application of this fact for city dwellers is to make sure that the milk, delivered early in the morning, is not left standing for a long period of time in the bright rays of the sun. Milk should be refrigerated as soon as possible after it is delivered.

An adequate supply of riboflavin in later life does not make up for a deficient supply in childhood.

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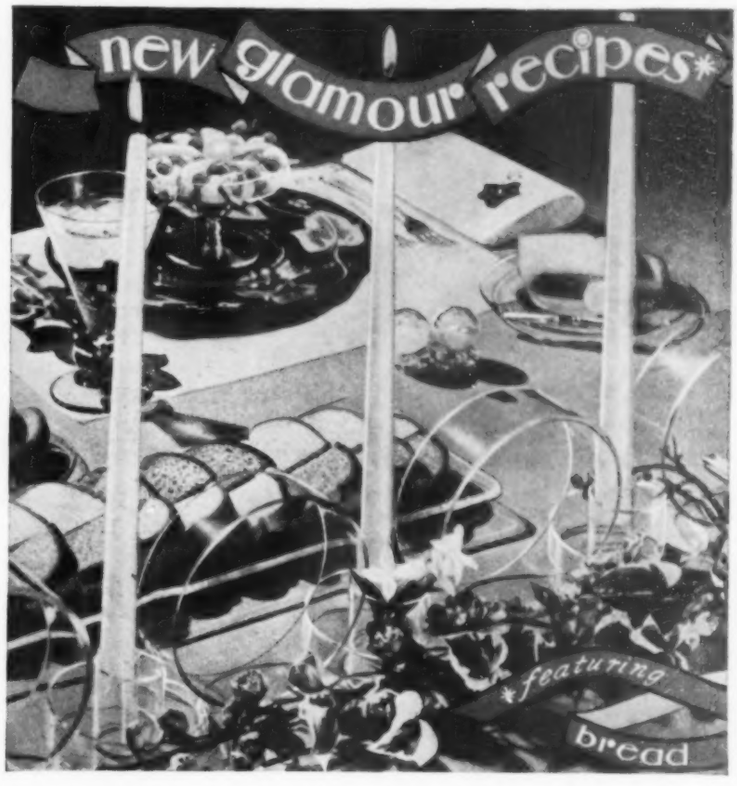

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That is why it is important for every mother to know which foods contain riboflavin so that she can plan meals which will provide adequate amounts of this essential dietary factor for the members of her family. Fortunately, this can be easily done by including, in each day's meals, foods that provide a liberal margin of this essential. The adult daily requirement for riboflavin (2,000 micrograms) would be met if the following foods were consumed each day:

Food	Micrograms of Riboflavin
1 pint of milk	1,000
2 eggs	350
1 generous serving of green leafy vegetables	150
1 generous serving of white potato	50
2 apples, or bananas, or pears, or peaches	150
1 serving of lean meat	300
	2,000

The riboflavin content of some common foods is shown in the accompanying table. These data are cited from:

Hodson, A. Z., Riboflavin Content of Some Common Vegetables and Fruits, Food Research, Vol. 5, page 395, July-August, 1940.
Whitnak, C. H., and co-workers' paper, Riboflavin Content of Milk Collected in Different Months and Correlated with Other Constituents of the Milk, J. Dairy Science **21**:563, 1938.
Sherman, H. C., and Lanford, Caroline S., Essentials of Nutrition, New York: The Macmillan Company, 1940, page 371.
The Normal Diet, a publication of the Council on Foods and Nutrition.

It will be noted from this table that the richest plant sources of riboflavin are the green leafy vegetables, such as broccoli, spinach, lettuce, Swiss chard, endive, asparagus; and the richest animal sources of riboflavin are milk, eggs and liver.

Riboflavin Content of Some Common Foods

Food	Quantity	Micrograms of Riboflavin
Beef liver	3½ ounces	2,500
Milk	1 quart	2,000
Evaporated milk*	1 quart	1,950
Eggs (2 large eggs)	3½ ounces	350
Beef, lean muscle	3½ ounces	300
Vegetables (fresh weight)		
Broccoli	3½ ounces	210
Spinach	3½ ounces	160
Peas	3½ ounces	150
Swiss chard	3½ ounces	140
Green pepper	3½ ounces	140
Cauliflower	3½ ounces	130
Onions	3½ ounces	120
Leafy green lettuce	3½ ounces	100
Romaine	3½ ounces	100
Yellow wax beans	3½ ounces	100
Green string beans	3½ ounces	90
Sweet potato	3½ ounces	70
White potato	3½ ounces	50
Fruits (fresh weight)		
Banana	3½ ounces	80
Pear	3½ ounces	80
Apple	3½ ounces	70
Cantaloupe	3½ ounces	70
Peach	3½ ounces	60

* Evaporated milk diluted with an equal volume of water.

Giant Blood Bank

(Continued from page 109)

The BTBA has informed the Red Cross that the current market price of plasma is not $194 per liter. With volunteers donating their blood, the cost of the project, including processing, clerical help, laboratory equipment, special storage containers and transportation, will be considerably lower.

Meanwhile, the domestic plasma program is continuing. Preliminary studies are being made to perfect methods of collecting, storing and administering plasma under conditions comparable to war-time emergency. Blood for this initial study will be furnished by volunteers at the four hospitals mentioned earlier, where members of the Red Cross research committee are regularly employed. The plasma collected will be stored and used as emergencies arise at these hospitals.

After these preliminary investigations have been completed, the Red Cross will then work out, in cooperation with the medical department of the army, plans for enrolling prospective donors in cities throughout the country where collecting centers will be established. In the event of an emergency, the Red Cross could start delivering plasma within ten days after enrollment is completed, DeKleine says. Blood so collected will be pooled in large sterile containers, to simplify storage, in sufficient quantities to meet the emergency needs for treating the wounded.

Recruiting donors will be conducted by a special chapter blood transfusion committee which will include leading local physicians. The technical phases of the project will be performed by the medical staff of the cooperating hospitals. They will examine the prospective volunteers, make the necessary blood tests as well as doing the actual transfusions.

This blood transfusion project will be another step taken by the Red Cross in its preparedness program for national emergencies. It will function in close cooperation with the medical departments of our military high command.

2 ways to give your child

MORE IRON!

Children love to get their iron from a delicious Molasses Milk Shake, made by mixing one or more tablespoons of Brer Rabbit with a glass of milk.

Every piece of gingerbread and every cooky made with Brer Rabbit Molasses contains the full iron richness of the molasses—*all of it is retained in cooking.*

IT'S GOOD NEWS—this easy way to give children extra iron! Not in medicines, mind you—but in a food children consider a real treat—delicious Brer Rabbit New Orleans Molasses.

Recent scientific tests have proved New Orleans molasses is second only to beef liver as a rich food source of iron. (All the tests were made with Brer Rabbit New Orleans Molasses.) Three tablespoons will supply about one-third of your child's total daily iron requirements.

So why not use Brer Rabbit Molasses freely? You can't get too much iron! And Brer Rabbit can be served daily without monotony—on cereal in place of other sweetening... on plain or buttered bread ...in gingerbread or cookies.

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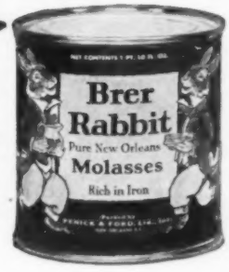

BRER RABBIT New Orleans Molasses comes in two flavors to meet all taste preferences. If a dark, full-flavored molasses is desired, ask for Green Label. If a light, mild-flavored molasses is wanted, ask for Gold Label.

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*"*It is apparent . . . that of the foods reputed to be excellent sources of iron, only liver compares favorably with molasses . . . It appears . . . that molasses . . . is, moreover, the most inexpensive food source of iron." (American Journal of Digestive Diseases)*

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PIE—

America's Favorite Dessert

By HARRIET MORGAN FYLER

"Washington, Lincoln and pie are immortal."—E. P. Butler.

THE CELEBRATED London pie, with its filling of "four and twenty blackbirds," may have been a dainty dish to set before a king, but here in America pie is essentially a dessert. While there is no questioning the fact that pie—even in its New England stronghold—has lost some of its popularity to ice cream, fresh fruit, jellied and other modern desserts, it still holds a place on the nation's table and in the nation's affections, a place which seems to justify the pronouncement of Ellis Parker Butler: "Washington, Lincoln and pie are immortal."

Americans make no secret about their appetites for pie, but ask for the favorite among pies and you will find yourself among partisans. Pie of every sort—meat, vegetable, fruit, "kivered, unkivered, or barred," as they say in North Carolina, and even pie without any bottom crust—has its loyal followers who defend and eat their pie. Should you perchance speak disparagingly of another fellow's favorite pie *ipso facto* you are a Philistine and there is little hope for you. So just accept pie, any kind of pie, as the all-American food delicacy.

Popular in summer are the fruit pies with granulated sugar sprinkled skillfully over the top crust, the moment before serving, to contrast with the cooked fruit. A generous wedge of luscious ambrosial blueberry pie, not warm, never chilled, but just fresh, oozing its delicious purple tide, is without doubt one of the items in those Olympic feasts which give rise to the phrase "foods for the gods."

In recent years cream pies have won a following, with lemon, chocolate and butterscotch leading. A cream pie safely set in a golden scalloped crust, with a shivery-delicate consistency, topped with a meringue that will stand up pridefully, is the epitome of culinary achievement.

Cold weather brings new fillings, with apple, pumpkin and mincemeat in the lead. Apple pie needs no defenders, unless it is passed off as apple meringue or apple custard pie. Befurrowed and browned on top by just enough apple juice pushing up into the top of the crust, it is the favorite dessert, served in pointed wedges with a slice of cheese, or hot "a la mode" with ice cream atop. The West prefers sweet apple pie; in the East, the tart, green apple pie is traditional. But the best apple pie, every one agrees, is that which is made at home.

Pumpkin pie, sweetened with maple sugar, is America's contribution to the domain of pastry. Pumpkins appear to have been the standing ingredient for many New England dishes.

Although the pie is still considered by many to mean dessert, there are numerous kinds of "meat" pie, ranging from the New England

clam pie to the tamale, pork or chicken pie of the southwest. The most popular kind of meat pie has a pie crust or biscuit top over a deep store of tender meat, rich gravy and often succulent vegetables.

But whatever kind of pie is served, the pie crust should have a crisp texture, not only for the pleasure of eating, but also for easy digestion. Pie crust with a crisp texture is more easily penetrated by the digestive fluids and therefore more easily digested than soggy pie crust. A gummy, insufficiently baked pie crust is not readily reduced to fine particles by chewing and is penetrated only with difficulty by the digestive juices. An excellent pie—upper crust, flaky and flavorsome; filling, a perfect blend of fruit, sugar and spice; under-crust, tender and unsoaked—is not encountered casually here, there and everyhere. It must be stalked rather like game, and if made in the home it must be compounded with care and skill for perfect results.

In contrast to the sketchy directions that the old-time cooks had with which to conquer the technic of pastry making, today's pie-maker starts off with a standard pie crust recipe in which the measurements of most ingredients are stated exactly: Two cups of sifted flour, one-half teaspoon salt, two-thirds cup of shortening, about one-fourth cup of water.

The modern pie-maker also profits greatly from the tested findings of kitchen laboratories in colleges and food processing plants. For example, these findings show that a flakier crust results if the shortening and water are cold and if the shortening is cut into the combined flour and salt with a quick, light touch, just enough to coat bits of shortening (about the size of a pea) with flour. These bits of coated shortening are brought together by quickly dampening batches of them in the bowl while stirring vigorously with a fork. When pie is baked for the first ten minutes in a hot oven (450 F.), the crust is flaky and that sogginess of the under-crust which has long been the Nemesis of the pie-maker is avoided. Fruit pies will keep all their juices without the thickening that so many persons dislike if the edge of the lower crust is moistened with water and the edge of the upper crust is

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Irradiated Carnation Milk
"FROM CONTENTED COWS"

CHIFFON MOCHA PIE

1 tablespoon granulated gelatin
¼ cup cold water
1 cup sugar
½ cup cocoa
¼ teaspoon salt
4 eggs
1 cup strong coffee
Baked pie shell

Soak the gelatin in the cold water for 5 minutes. Mix half the sugar with the cocoa and salt; add the egg yolks, beaten until thick, and the coffee. Cook over hot water until the mixture is of a custard-like consistency. Add soaked gelatin and cool. When the mixture begins to congeal, fold in the stiffly beaten egg whites to which the remaining half cup of sugar has been added to make a meringue. Pour into baked shell and cool. Top with whipped cream.

PUMPKIN PIE

2 eggs
1 cup cooked mashed pumpkin
1 cup brown sugar
½ teaspoon salt
¾ teaspoon ginger
¾ teaspoon cinnamon
¾ teaspoon mace
2 tablespoons orange juice
¾ cup milk

Beat the eggs until foamy in a 2 quart bowl. Add the thoroughly mashed cooked pumpkin, brown sugar, salt, spices, orange juice and milk. Beat until the ingredients are thoroughly blended. Pour in a pastry lined pie plate. Bake in a very hot oven (450 F.) for 10 minutes; reduce heat to 350 F. and continue baking for 30 minutes longer. When completely baked the filling will be firm and will not stick to a knife blade.

LEMON PIE

¾ cup sugar
2 tablespoons flour
¼ teaspoon salt
4 eggs
1 cup cold water
2 egg whites

Mix sugar, flour and salt. Beat egg yolks until thick; add flour mixture, grated rind, juice of one lemon and cold water. Cook mixture until thick, stirring continuously. Remove from stove and fold in the stiffly beaten egg whites of 2 eggs, to which 3 tablespoons of sugar have been added. Pour into baked pie shell. Spread over the pie a meringue made from 2 egg whites stiffly beaten and 4 tablespoons of sugar. Bake in a slow oven (350 F.) for 30 minutes.

BEEF AND KIDNEY PIE

2 pounds boneless chuck
1 beef kidney
3 cups boiling water
1 teaspoon Worcestershire sauce
1½ teaspoons salt
¼ teaspoon pepper
8 or 12 white onions
1 bunch carrots
3 or 4 stalks celery
pastry

Cut beef into cubes; slice kidney. Fry out some beef fat in a kettle; add meat and brown thoroughly. Add water, cover and simmer for 1¼ hours. Add seasonings and onions; simmer for 30 minutes. Add diced carrots and celery. Simmer for 15 minutes. Thicken gravy with 3 tablespoons flour mixed smooth with cold water; pour into casserole. Cover with pastry ¼ inch thick; bake in hot oven (450 F.) for 10 minutes. Reduce heat to moderate (350 F.), and bake 25 minutes longer.

STRAWBERRY AND RHUBARB PIE

1 cup sugar
¼ cup flour
¼ teaspoon salt
2 cups diced rhubarb
1 pint strawberries
2 tablespoons butter

Mix sugar, flour and salt, sprinkle a little of it in a pastry-lined pie plate. Combine remaining sugar mixture with rhubarb and strawberries. Fill pie with fruit; dot with butter; cover with pastry; seal edges and make a few slits for steam vents. Bake in very hot oven (450 F.) for 10 minutes; reduce heat to 400 F., continue baking for 20 to 25 minutes.

VALENTINE CHERRY PIE

1 pie shell
¾ cup sugar
3 to 4 tablespoons flour
2 cups pitted cherries and juice, cooked or canned
1 tablespoon butter

Mix sugar and flour together. Add to heated cherry juice. Cook, stirring constantly, until mixture thickens. Add butter. Fold in cherries and fill into baked 9-inch pastry shell. Garnish with pastries which have been cut with heart-shaped cookie cutter and baked on cookie sheet about 10 minutes in hot oven (450 F.).

pressed into it firmly with a fork. Meringues first beaten stiff with plenty of sugar (at least two tablespoons to each egg white) will stand up pridefully if they are baked slowly at a temperature not above 325 F. Custard pies made with one egg for each cupful of milk will have that prized smoothness and shivery, delicate consistency if they are baked at the same low temperature.

When planning menus with pie as the main course, or dessert, it is well to remember that pie is food rich in fat. The fat content of a two crusted fruit pie is about 12 per cent. Meat pies, of course would contain more fat. The fat content of foods is worth special consideration because fat is such a concentrated food that it slows down the digestion of other foods. Too much fat rich foods in a meal may cause digestive troubles. For this reason, one would seldom, if ever, serve a meal in which baked ham (39 per cent fat), avocado (20 per cent fat) salad and apple pie a la mode (26 per cent fat) were the main foods.

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Heinz Junior Foods

Not for War Alone

By NORMAN JOLLIFFE

WE ARE NOW engaged in a gigantic program of national defense which will require the full energies of all citizens engaged in agriculture, industry and professions. Since an important part of this defense program consists of military training of a large citizen army, it is interesting to know how and what our troops will be fed. It is recognized by all military experts that nothing is more important in maintaining a high *esprit de corps*, morale and efficiency of an army than good, palatable, nourishing and properly balanced rations. On good food and optimal nutrition depends the efficiency, the bravery, the ability to work and to think, the endurance and keenness of muscle and nerve and mind. Without this, all other preparation, no matter how carefully planned, will not be brilliantly or efficiently executed.

The defeat of Germany in 1918 was primarily due to malnutrition of the German soldier beginning in 1917; the rout of the Italians at Caporetto in October 1917 has been attributed to the drastic reduction in the Italian army ration put into effect the preceding February; similarly, the defeat of the British at Gallipoli in the Dardanelles campaign of 1915-1916 has been attributed to the failure of mind, nerve and muscle of otherwise brave and well trained troops, occasioned by rations so unbalanced as to permit a high incidence of both beriberi and scurvy.

The responsibility for providing good, nourishing palatable food, and plenty of it, is the direct responsibility of the Quartermaster's Corps. They not only procure it, but have efficient personnel, highly trained in the science of nutrition, inspection, distribution, mess management and preparation of food. A difficulty in the past has been in obtaining a sufficient number of good cooks. For this reason the Quartermaster's Corps maintains a cooking school, whose facilities may be severely taxed by the rapid growth of our citizen army.

In the army, food which is provided for one man for one day is called a ration, for which army regulations provide several, such as Garrison Rations, Field Rations, Alaska Rations, Emergency Rations and others. The ration used by our citizen army for its one year of training is the Garrison Ration. It consists of 39 items, such as 10 ounces of beef and 8 ounces of other meats; 10 ounces of potatoes and 11 ounces of other fresh vegetables; 12 ounces of flour; 1½ ounces of rolled oats and a little more than 1 ounce of rice and dried beans; 2 ounces of butter; 1 egg; 1⅓ ounces of lard; 8 ounces of fresh milk and 1 ounce of evaporated; 5 ounces of sugar; 5 ounces of fruit; 2 ounces of coffee; and smaller amounts of various other items, such as jams, jellies, peanut butter and condiments. The shipping weight of this food is 5½ pounds every day for each man. Thus, in the World War, when our army was at its peak, the Quartermaster's Corps was delivering 20 million pounds of food each day, 9 million pounds of which was transported to the American Expeditionary Force in France.

The Garrison Ration, however, is not limited to these 39 items, which might become monotonous. This is prevented by a system of substitution, which permits the mess officer to substitute other items in the same general class of foods of about equal nutritive value. For example, in place of the 10 ounces of beef each day, he may substitute an equal amount of lamb, mutton, veal, liver, or pork; or he may substitute 16 ounces of dressed, undrawn fowl or 8 ounces of pork sausage. In place of the 12 ounces of flour, he may substitute 8 ounces of bread and 4 ounces of flour. Thus, continuing down through the list, the 39 items become 300, which, under the supervision of well trained mess officers, provide a varied, nutritive and well balanced ration.

The excellent nutritional quality of this Garrison Ration for our citizen army is evidenced by analyses made of army messes throughout the country. Averaging these analyses it was found that the American soldier consumes 5,138 calories as compared to the 3,000 of the average American. His protein intake is 148 grams and iron is 23 milligrams, while the average American is consuming only about one half of these amounts. In vitamins, the soldier averages 5,760 units of vitamin A, 1,173 units of vitamin B_1, 46 milligrams of vitamin C and 2.3 milligrams of vitamin B_2, all in greater quantities than the average American. In respect to vitamin B_1, the soldier is consuming more than twice as much as the average American.

It is immediately apparent that the Garrison Ration is superior in every way to the diet of the average American. It is well known, however, that the diet of approximately one third of our people falls below the minimum standards considered just adequate for proper nutrition. At the same time, this average American diet includes those who have intakes above average. Surveys of the Bureau of Home Economics show that no large group of our population receives, on an average, a diet equal in nutritive values, whether compared by calories, proteins, minerals or vitamins, to that of the Garrison Ration. We can, therefore, be assured, even with no changes in our army's ration, that it is and will continue to be the best fed group of our population.

Despite the fact that our army constitutes the best fed group of our population, those responsible for its feeding believe that every effort should be made to further improve the army ration in any respect in which it does not now reach the optimum. For this reason, the National Research Council was requested to form a committee of experts in nutrition to advise them as to the possible means of

improving the nutritive value of the food for our army. As a result of this request, the Subcommittee on Medical Nutrition was formed. This committee consists of non-government experts in nutrition to advise and consult with nutritional experts in the Quartermaster's and Medical Corps of the army and navy. Already, several problems have been considered by the committee and their recommendations adopted. Thus, the plans for feeding our citizen soldiers warrants the unqualified assertion that they have been, are, and will continue to be the best fed population group on earth.

POSSIBLE USE OF SYNTHETIC FEMALE SEX HORMONE

The possibility that certain types of sexual criminals may be effectively treated with the recently developed synthetic female sex hormone, stilbestrol, is indicated in an investigation reported by Charles William Dunn, Philadelphia, in The *Journal* of the American Medical Association.

By administering stilbestrol over a period of ninety-six days to a male sexual criminal aged 27 years, Dunn reports that he was able to obtain a marked diminution of the man's excessive sexual desires. He says, however, that the treatment produced an excessive growth of the breast tissues.

Because of the untoward symptoms observed in some patients treated with stilbestrol, official recognition of the substance is being withheld by the Council on Pharmacy and Chemistry of the American Medical Association pending further investigations. Dunn points this out and says that the case he reports is presented as a contribution toward further defining the effect of the substance on the human species.

NO KNOWN SCIENTIFIC TEST FOR RACIAL BACKGROUND

There is as yet no known scientific test that will identify the racial background of a person whose blood contains so many and so dilute racial strains as to make his racial origins doubtful, The *Journal* of the American Medical Association declares in a discussion of "Mongolian Spots and Negro Heredity."

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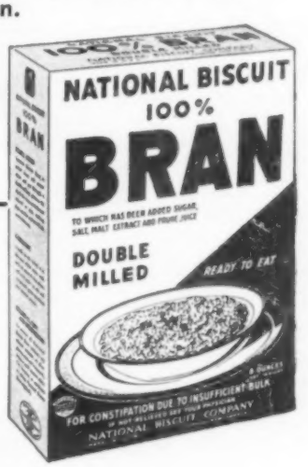

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Vitamin E and Other Factors

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AMERICAN MEDICAL ASSOCIATION
535 N. Dearborn St., Dept. V. Chicago

RECENTLY ACCEPTED FOODS

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

The American Medical Association's Council on Foods and Nutrition has accepted the following additional foods as conforming to the rules of the Council, described in the book "Accepted Foods and Their Nutritional Significance."

Fleischmann's Hi-B_1 Yeast for Bakers

A brand of bakers yeast of high vitamin B content which, when used in place of ordinary yeast as a leavening for dough, increases the nutritive value of ordinary bread with respect to vitamin B_1. A pound loaf of ordinary white bread provides about 50 to 100 international units of vitamin B_1. A pound loaf of whole wheat bread (meaning the genuine whole wheat bread) provides about 450 international units of vitamin B_1. A pound loaf of bread made with this special yeast also provides 450 international units of vitamin B_1. One slice of such bread provides about 22 international units of vitamin B_1 and six slices would supply two thirds of the daily minimal adult requirement for vitamin B_1.

This variety of baker's yeast is cultured to yield a product of high vitamin B_1 content. The yeast is distributed in compressed cakes, weighing 1 pound and containing 30,000 international units of vitamin B_1 for use by bakers as an ingredient of bread doughs. Before shipment, every batch of yeast is tested for vitamin content and baking strength and also is examined bacteriologically. When used in the amount of 2 per cent in the bread formula (2 pounds of compressed yeast to 100 pounds of flour), the resulting bread contains approximately 450 international units of vitamin B_1 to the pound loaf.

•

Musselman's Tomato Juice
Sugar Loaf Tomato Juice

Two brands of tomato juice which provide about 700 international units of vitamin C for each 7 ounce serving. The minimal daily adult requirement for vitamin C is 1,000 international units. Tomato juice also provides small amounts of vitamin A.

•

Spartan Evaporated Milk

A brand of evaporated milk which, when properly diluted, can be used in practically all the ways in which pasteurized whole milk is used. Because evaporated milk costs less than pasteurized whole milk, it is an economical milk to buy when there is little money to spend for food. Evaporated milk suitably diluted is also widely used for infant feeding. Its uniform composition, the sterility of the content of the unopened can and its soft curd quality render it particularly adapted to this purpose when the usual vitamin supplements are given.

•

Silk Floss Cake Flour

A brand of cake flour made from bleached white flour milled from soft winter wheat. In compounding cake flours, millers use soft winter wheat flour because this wheat has a higher starch content and lower gluten content than hard winter wheat. Gluten is a protein which is capable of attaining a degree of elasticity, thus permitting the retention of gases developed within the dough when yeast is used as the leavening agent. This action is necessary in order to produce a light loaf of bread.

•

Cellu Juice-Pak Sliced Yellow Cling Peaches Without Added Sugar
Cellu Juice-Pak Hawaiian Pineapple Tidbits Without Added Sugar

Two brands of canned fruits, packed without added sugar or salt, which are useful in the diets of persons with diabetes who find it necessary to regulate the intake of sugar. Ordinary canned fruits contain sugar in amounts that vary from 20 to 50 per cent of the contents of the can or container.

•

Bliss Waffle Syrup
Nectar Crystal White Syrup
Nectar Waffle Syrup
Wood's Golden Syrup

Four brands of table syrup containing corn syrup, cane sugar, and flavored with various flavoring materials such as vanilla, imitation maple and refiners' syrup.

The Newer Concepts of Meat In Nutrition

The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

Meat has an important place in the daily diet of children

Meat...

As a Daily Source of Important Minerals

AMONG the significant advances in the science of nutrition is the comparatively recent discovery that meat is a good food source of iron, copper and phosphorus.

Iron is necessary to enable the blood to carry the required oxygen to the tissues throughout the body. Copper apparently is needed to enable iron to exert its beneficial influence on the blood. Phosphorus combines with the calcium derived from other foods in the formation and maintenance of sound teeth and bones.

Since these minerals are partly lost from the body each day in the process of living, it is imperative that the body's supply be replenished daily. Food must provide them.

It is important to note here that meat is a dependable, *constant* source of these minerals—the contained quantity hardly varies. Another reason why meat, so easily digested by young and old alike, deserves to be the mainstay of every major meal.

American Meat Institute

CHICAGO

To determine crop quality, inspectors check juiciness and maturity of the fruit before pickers begin work.

CITRUS FRUITS

By JOHN FASSETT EDWARDS

IN 1187 B.C. Han Yen-chih, a Chinese naturalist, wrote enthusiastically about the 27 varieties of oranges in his valley of Wen Chou. He wrote, too, of citrus fruits more than a foot in diameter, of some species that were practically seedless, of trees that were so loaded that their branches trailed on the ground. In the Yuen dynasty the Chinese so much appreciated the use of lemons in maintaining sound health that they burst into poetic ecstacy over their beloved *li-mung* —from which stems the "lemon" of our language. Literally, *li-mung* means fruit beneficial to a pregnant woman. During pregnancy, the dietary need for lime salts increases, probably in the form of citrates as well as phosphorus and vitamin C. By a humane edict of this ancient emperor, pregnant women were permitted to pick the fruit they desired, no matter where it happened to be growing.

An ancient Chinese herbalist declared that lemon juice kills fever, overcomes poisons, takes fever from the chest and that this juice actually prolongs life. Amazingly enough, this appears to be true, since nutritional scientists can predict the exact day when Guinea pigs, living on a diet lacking the vitamin C of citrus fruits, will die; namely, twenty-eight days from the date of weaning.

Oranges and lemons were carried, probably by the Arabs, from China and India to the Mediterranean region about the time of the Crusades. There they soon became the principal fruits, and centuries later, when the Moors invaded Spain, they, too, carried oranges with them. But when or how the edible citrus fruits reached the Americas is unknown. The Spaniard, Acosta, and his companion Pino write of their amazement at finding oranges growing in the West Indies prior to 1600. And when the early settlers reached Florida, they found both bitter and sweet oranges growing wild, waiting for them.

To the California coast, the early missionaries brought many sorts of fruit; and their first mission, founded in 1769, had various fruits growing in its garden. Nearly all the other 22 missions soon had gardens and orchards, flourishing with oranges, figs, grapes and olives. But to San Gabriel Mission, near Los Angeles, belongs the honor of developing the first large California orange grove, about 1804. The second largest planting of orange trees in the United States was made by Don Luis Vagnes, on Aliso street, Los Angeles. Other groves were planted sporadically, but not until 1870 did the Argonauts plant their first grove of over 400 acres at Riverside, California. Their methods were modern—they sold lots and helped the buyers start their first groves—and now these orange groves dot many miles of California soil, where once only desert existed.

The common budded varieties of orange are the Washington navel, picked in winter, and the Valencia, picked in the summer and fall. Goa, in Portuguese India, appears to have been the place of origin of the navel tree. Travelers brought back specimens to Portugal, and then to Brazil, at that time a Portuguese colony. In the Bahia district, along the Atlantic coast, a peculiar branch was found producing oranges that were different from the rest of the fruit on the tree.

From this mutational start, navel oranges came to this country, although they were a long time coming, and probably not before 1870. Two of these original trees were planted at Riverside in the early '70s: one still flourishes.

The Valencia orange appears to have started in the Azores. Seventy years ago they were first taken to England, and then to America by A. B. Chapman, who also imported several other varieties. But in transit, the labels were detached and the identity of the Valencia was lost until they were recognized as the kind known in Spain as *La Naranja Tarde de Valencia.* From this stock, shipments were again made to America.

Grapefruit derives its name from the manner in which it grows, clustering like grapes on a stem. Its other and prettier name is pomelo. And while the majority of grapefruit sold in Eastern markets comes from Florida and Texas, the

Try less peek-a-boo and more flavor . . .

BABIES TAKE TO CLAPP'S!

"Just ONE more bite! (Gosh, she won't even look at it!) Hey, watch Daddy now! PE-eek-a-BOO! . . . Shucks, it's no sale. What'll we do?"

Try CLAPP'S JUNIOR FOODS, young people! They're lump-free, evenly chopped, with textures specially adapted to the needs of the older baby. And you'll find out, if you sample them yourself, that they *taste* good!

So if your baby balks at changing from strained foods to the coarser textures his age requires, don't try tricks. Clapp's Junior Foods, loved by thousands of hearty, hungry toddlers, will do the coaxing for you.

"Scraping the flowers off the china! Isn't it wonderful?"

The clean plate's the rule with Clapp's Junior Foods. Right-from-the-garden flavor—no queer lumps or stems—chopped and seasoned as doctors advise. They give Baby his own menu, and the family doesn't have to eat "baby's vegetables." And remember: Clapp's Junior Foods are based on 20 years' exclusive work with baby foods.

Delicious meat-and-vegetable combinations! Beef, lamb, or liver with 6 or 8 vegetables and cereals—they'd take you *hours* to fix.

For little babies . . . Clapp's famous *Strained* Foods include 17 varieties . . . flavory, smooth, but *not too liquid.*

14 VARIETIES OF JUNIOR FOODS

Soups—Vegetable Soup • Chicken Soup
Combination Dishes—Vegetables with Beef Vegetables with Lamb • Vegetables with Liver
Vegetables—Carrots • Spinach • Beets Green Beans • Mixed Greens • Creamed Vegetables • **Fruits**—Applesauce • Prunes
Dessert—Pineapple Rice with Raisins.

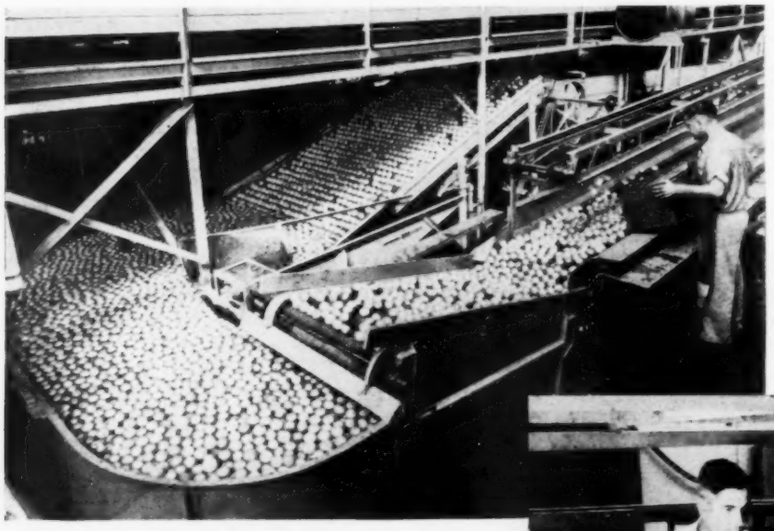
Clapp's Junior Foods

OKAYED BY DOCTORS AND BABIES

Arizona desert also produces some of the finest quality fruit.

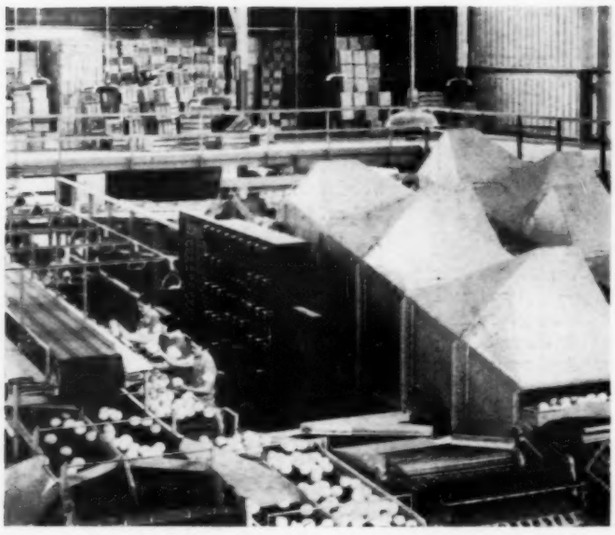
One kind of lemon, now growing in the United States, came here from Australia, but was originally of Portugese stock. The other kind is known as Eureka, and was developed at Los Angeles from Sicilian stock. Almost the entire lemon crop is produced in California, since lemons require growth factors found most abundant in that area. But the best of them, wherever they are grown, are picked green and ripened in storage. During this ripening stage the familiar flavor and rich color are acquired.

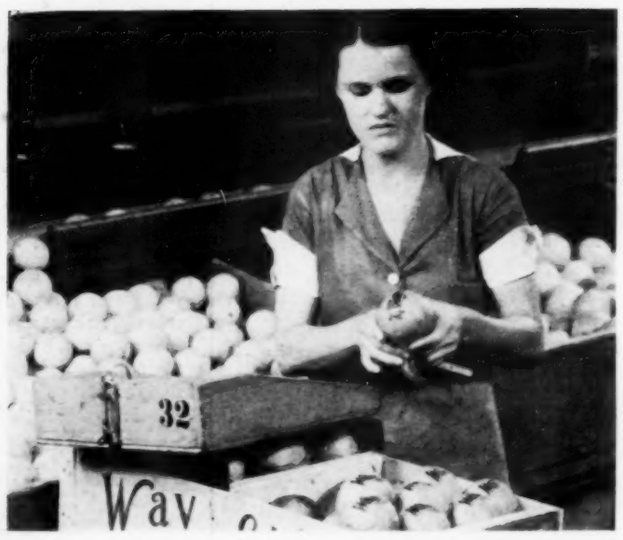
Orange and lemon trees appear similar to the casual observer, but there is considerable difference. The leaves of the lemon tree are longer and broader, and of a lighter green than those of the orange tree. Lemon trees, unlike orange trees, are always in bloom, and the underside of the flower petal is tinged



Citrus fruit is carefully washed. After soaking, the fruit is conveyed down the line of revolving brushes. The flexible brush shields also keep fruit revolving.

Roller belts keep fruit turning so that it may be inspected and graded. Hooded machines are dryers. The only point of human contact in packing is in wrapping.





with purple. The orange blossom has no purple stain.

Citrus trees are planted with geometrical precision, with from 75 to 100 trees to the acre. Sufficient room must be left for proper irrigation, picking, spraying, etc. It usually costs more to raise lemons than it does to produce oranges. The per acre yield of oranges is about 207 packed boxes, while lemon trees produce only about 197 packed boxes. The box or crate is a standardized container, and the size of the fruit determines the quantity in a packed box.

The greatest enemy of the citrus fruit industry is decay. To prevent spoilage, the fruit is handled most carefully. It is always cut away from the branch, wrapped in tissue paper and refrigerated when in transit. Technics for washing the fruit and for adding color, in the case of oranges, have also been carefully developed.

In the United States, the orange is grown as a commercial crop in California, Florida, Arizona, Texas and Louisiana. Since the grapefruit is a more tropical fruit than the lemon, it is grown in this country only in southern Florida, California, Arizona and Texas.

The commercial production of citrus fruits has grown tremendously as shown by the following data, computed by crates.

	1920-21	1935-36
Oranges	34,957,000	66,347,000
Grapefruit	5,329,000	10,895,000
Lemons	4,400,000	7,500,000

The Bureau of Agricultural Economics, United States Department of Agriculture, has issued federal standards for fruits sold in interstate commerce. These standards differ slightly in each of the states where citrus fruits are grown in order to allow for variations incident to environment and the tree species. In addition to federal standards, each state has adopted citrus fruit standards which are applicable to fruit grown within that state.

After being graded, according to both federal and state standards, the fruit is wrapped and packed according to size. The quantity of fruit in a box is designated by numbers. Oranges are packed as 96s, 126s, 150s, 176s, 200s, 216s, 250s, 288s and 324s. Grapefruits are packed in 36s, 46s, 54s, 64s, 70s, 80s, 96s and 126s. In most fruit

A HEALTHY MEAL HELPS THEIR SCHOOLING
ACCEPTED FOR ADVERTISING IN PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION
Tested and Approved 3424 Good Housekeeping Institute
GROWING CHILDREN NEED ALL THE NOURISHMENT POSSIBLE
Flex-Seal cooked meals provide this maximum nutriment
Truly, Flex-Seal results are amazing! Since Flex-Seal cooks by the "waterless" method, and air, also, is excluded while cooking, those water-soluble and oxidizable vitamins and mineral salts so necessary to health in growing children and adults alike, are retained in greatest amounts.
Because of the split-second speed—instead of long, slow boiling in water—color, flavor and aroma are retained as never before possible. Food is much more appetizing. Children are actually eager for their vegetables.
For technical proof that Flex-Seal saves more vitamins than any other method of cooking known to science, see Page 692, Journal of Home Economics, December 1940 issue. A reprint of this article will be sent on request.
My Flex-Seal RETAINS GARDEN COLORS, SAVES VITAMINS AND MINERAL SALTS IN VEGETABLES .... MEATS ARE COOKED TO A NEW DELICIOUS TENDERNESS
Peas, ½ Min.
Green Beans, 2½ Mins.
Potatoes, 8 Mins.
Carrots, 2 Mins.
Pork Chops, 10 Mins.
Pictured here is the All-Stainless-Steel model. Made also in Alcoa Aluminum. (1, 2, 3 & 4-Qt. sizes.)
Sold at Department and Hardware stores throughout the United States and Foreign Countries. Write for interesting FREE folder.
VISCHER PRODUCTS CO. 336 ORLEANS ST. CHICAGO, ILLINOIS

markets, price varies directly with the size of the fruit.

Because of a consumer preference for an orange with an orange-colored skin, it has become customary for distributors to dip mature, green-skinned oranges in a harmless orange dye to give them a uniform color. The dye used is a coal-tar by-product and has been certified by the Federal Food, Drug and Cosmetic Administration as harmless and suitable for this purpose. But the Administration has ruled that all fruit thus dyed must be labeled "color added." And while the juice from oranges with partly green skins may not be as sweet as the juice from oranges that are naturally orange-skinned, they contain equal amounts of vitamin C.

Citrus fruits are now universally recognized as excellent sources of vitamin C or ascorbic acid. Vitamin C is an important nutritional factor in the diet, and its lack causes scurvy, the scourge of the sailors of the Fifteenth century. When Vasco da Gama made his historic voyage around the Cape of Good Hope, he reported that 100 of his crew of 160 had died of scurvy. During the voyages of Cook, 1768-1779, his men suffered only slightly from scurvy because their daily rations included 3 teaspoons of lime juice. Consequently, the British government established a regulation requiring all British ships to carry lime juice to be included in the sailor's daily rations. This practice eventually caused British seafaring men to be called "limies."

While scurvy is now a rare disease in the United States, the diet of many persons falls short of providing the optimal amount of vitamin C. Since vitamin C cannot be stored in the human body, each day's food supply should furnish not less than 1,000 international units of vitamin C. This amount of Vitamin C may be obtained from either 4 ounces of grapefruit juice, or 3½ ounces of orange juice, or 2½ ounces of lemon juice.

Because vitamin C is readily destroyed by contact with air or heat, it was commonly thought for several years that fruit juices should be consumed as soon after preparation as possible. Recently, however, investigators using an improved technic for measuring vitamin C have found no appreciable loss of this vitamin even when stored in loosely covered jars in a refrigerator for periods as long as twenty-four hours. Since fresh orange juice retains as much as 97.6 per cent of its vitamin C content after twenty-four hour storage periods, it may be prepared safely in the evening for the following morning's breakfast. However, citrus juices should be stored in a covered container and kept at a temperature of 40 to 45 F.

By-products of the citrus fruit juice industry are oil of orange, oil of lemon and pectin. Both the orange and lemon oils are used to flavor soft drinks, candy and other foods. The white rind between the skin and pulp of citrus fruits produces pectin, one of the newest by-products of the citrus industry. Previously, pectin has come mostly from apples, but citrus fruits now supply it in large amounts. When finished, pectin appears to be a commonplace white powder, with a slightly sweet taste. Pectin, besides its use in the preparation of jams and jellies, has a wide variety

HOW TO FEEL "FIT AS A FIDDLE"!
Begin every day right—with a bowlful of crisp, delicious Post's 40% Bran Flakes—the cereal with 2 extra benefits!
YES SIR, IF YOU HAVEN'T TASTED POST'S 40% BRAN FLAKES' SWELL NUT-LIKE FLAVOR . . . YOU'RE MISSING SOMETHING EVERY MORNING!
Post's 40% Bran Flakes
With Other Parts of Wheat
A POST CEREAL MADE BY GENERAL FOODS
LIFE IS SWELL WHEN YOU KEEP WELL
. . . AND POST'S 40% BRAN FLAKES GIVE YOU TWO IMPORTANT EXTRA BENEFITS!
First, Post's 40% Bran Flakes provide bran to help protect against sluggishness. Constipation due to insufficient bulk in the diet should yield to Post's Bran Flakes when eaten regularly. (For cases not corrected in this simple manner, we advise consultation with a physician.)
Second, Post's 40% Bran Flakes are a good cereal source of phosphorus, iron and Vitamin B1 . . . an essential for maintaining good appetite and abundant energy.
Enjoy Post's 40% Bran Flakes every morning . . . to help "feel fit as a fiddle"!

of uses in such substances as cosmetics and toilet preparations.

In recent years an increasing percentage of the grapefruit and orange crops has been canned as juice. Although a small amount of vitamin C is lost during the canning process, commercially canned citrus fruits may be considered excellent sources of vitamin C as shown by the following table, expressed in international units for each 3½ ounces.

Fruit	Fresh	Canned
Lemon (or juice).....	1,120	1,040
Orange (or juice).....	880	800
Grapefruit (or juice).....	800	720

CAN YOU ANSWER THESE HEALTH QUESTIONS?

Count 10 points for each correct answer. If your score is better than 90, you are exceptionally well-informed. The danger line begins below 70.

(1) Is insulin, digitalis, or adrenalin used to "shock-treat" mental patients.

(2) Is the total food supply in the United States actually sufficient for our own needs?

(3) Inflammation of the nerves is called neuralgia, arthritis, or neuritis?

(4) Is softening of the brain curable?

(5) Until recently what two anesthetics were most commonly used?

(6) Do worry and fear cause neuritis?

(7) Does wearing high heeled shoes cause shortened leg muscles?

(8) How can wearing stockings which are too short affect the feet?

(9) How does the act of nursing her baby benefit the mother?

(10) Can milk and orange juice be consumed at the same meal without digestive disturbances?

(For answers turn to page 158)

Say, Young Lady

We know you have a lovely complexion . . . soft as a petal and clear as a summer sky . . . so aren't you rushing things a bit? . . . Those cosmetics belong to Mother and she needs them to aid in the daily care of her skin . . . . The rosy blush of your cheeks and the warm pink of your little lips need no aid to beauty . . . Later on you can use Mother's cosmetics and, like Mother, you can help to retain that dewy freshness by regular and intelligent complexion care.

LUZIER'S, INC., MAKERS OF FINE COSMETICS AND PERFUMES

KANSAS CITY, MO.

BABY'S VANITY COURTESY "STORK'S NEST" KANSAS CITY, MO.

QUESTIONS AND *Answers*

Use of Rubber Gloves in Surgery

To the Editor:—Is it the practice in this country for surgeons to wear rubber gloves for all operations? Do they take any measures to counteract perspiration caused by the use of rubber gloves?

A friend in Europe has asked me what the general practice is in the United States. He believes that it is the practice to use rubber gloves here on all operations, but feels that in a delicate operation the use of gloves would be a hindrance.

M. W., Connecticut.

Answer. — Arguments regarding the use of rubber gloves are no longer heard in this country as it is the established custom for the surgeon and all members of the operating team to employ them. Any divergence from this practice may be interpreted as a provincial eccentricity carried out at the risk of the patient. In an extremely rare specialized situation an experienced operator may choose to accept responsibility for discarding his gloves with a specific purpose in mind.

There are no general accepted measures employed to inhibit perspiration. Certain operators prefer "wet" gloves, immersing the hands in an antiseptic solution while the gloves are put on. It is claimed that the presence of the antiseptic solution lessens the hazards of contamination from perspiration if a glove is torn or pierced with a needle. As irritation of the skin is apt to be produced by prolonged contact with effective antiseptics, "dry" gloves are more commonly used.

An account of the introduction of rubber gloves into surgery will be found in a paper by William Stewart Halsted, published in the *Journal of the American Medical Association*, 60: 1119, 1913. This classic contribution was republished in the Surgical Papers of William Stewart Halsted, Vol. 1: pp. 29-45, Baltimore, 1924 and also in book form by the Welch Bibliophile Society (Boston, 1939).

Sinusoidal Treatment

To the Editor:—I would like some information regarding sinusoidal treatments. I have been told that these treatments used on the muscles of the face have a decided toning effect, thereby helping to eliminate lines and wrinkles on the face. Your information as to how much may be expected from this as well as any regulations controlling the use of this equipment will be greatly appreciated.

C. F., Alabama.

Answer.—Lines and wrinkles on the face are due to two causes: (1) There are numerous small muscles attached to the skin of the face, and their contraction under emotion produces the lines of a frown or a smile. (2) Due to the wasting or shrinking of the subcutaneous tissues of the skin from age or progressive emaciation, the skin is too large for the surface it covers, and having lost its elasticity it tends to fall into folds or wrinkles.

Sinusoidal currents have as their object the stimulation of contraction in muscular tissues. The current begins at zero intensity, rises gradually to a maximum, and falls gradually to zero, and an identical wave of opposite polarity follows. This follows approximately the form of curves plotted from the mathematical sine formula, whence the name. There are many variations of this current. The two most commonly used are the rapid and slow sinusoidal. The rapid sinusoidal current is in effect an alternating current which varies in frequency from about 80 to 600 waves per second, and causes contraction of normal skeletal muscles. The slow sinusoidal current varies from 5 to 15 complete waves per minute and can stimulate skeletal muscles which have entirely lost their nerve supply.

Sinusoidal currents will not prevent atrophy or the shrinkage of muscles which have an injured nerve supply, and they will not increase muscle size, strength or tone in any condition. These currents will not prevent the wasting or shrinking of the subcutaneous tissues. Therefore they will not eliminate lines or wrinkles on the face.

Toast for Low Calory Diets

To the Editor:—Why does a doctor prescribe toast instead of bread on reducing and diabetic diets? Is there any difference in the caloric content of the bread after toasting? I realize that the change of starch to dextrose makes toast easier to digest but what is the reason for designating toast in a low calory diet?

E. S., Kansas.

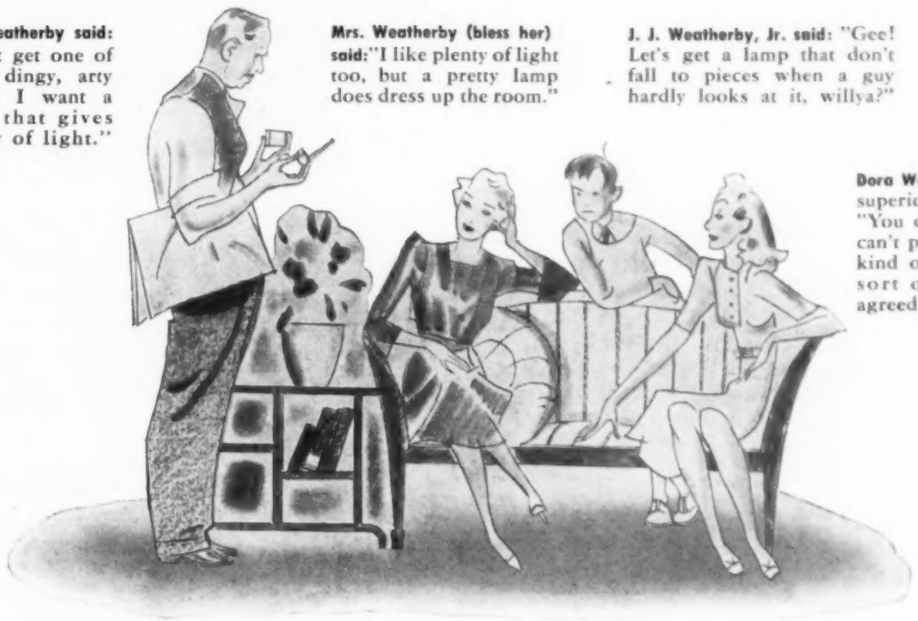
Answer.—The calories in bread and toast depend largely on the carbohydrate present which, in bread, is 60 per cent by weight. Toasting drives off water; and a piece of toast becomes lighter than a piece of bread of the same original size. Consequently, toast has a higher percentage of carbohydrate by weight than plain bread, the proportion rising as much as 70 per cent. A given quantity of bread furnishes fewer calories than the same weight of toast. The number of calories in a slice of bread and in the same slice toasted is for all practical purposes equal.

From the standpoint of weights and measures, therefore, the two articles may be used interchangeably in diabetic or reducing diets

J. J. Weatherby said: "Don't get one of those dingy, arty lamps. I want a lamp that gives plenty of light."

Mrs. Weatherby (bless her) said: "I like plenty of light too, but a pretty lamp does dress up the room."

J. J. Weatherby, Jr. said: "Gee! Let's get a lamp that don't fall to pieces when a guy hardly looks at it, willya?"



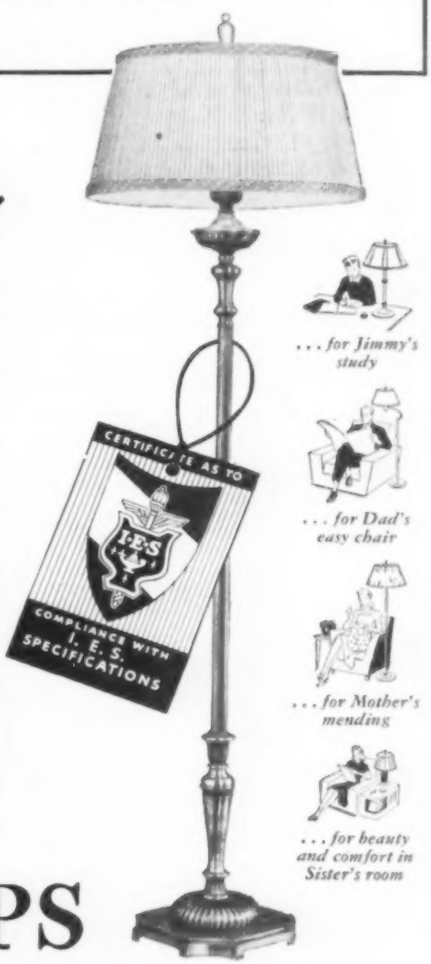
Dora Weatherby (with a superior smile) said: "You dear drips! You can't possibly get that kind of lamp for the sort of money you agreed to pay."

Somebody ought to tell the Weatherbys about I·E·S

THE LAMP THAT HAS *Everything for Everybody*

● This is the lamp that gives you soft, generous, sight-saving light. This is the lamp that helps protect your children's eyes when they read or study. This is the lamp that brings exciting new beauty . . . a touch of Spring brightness to liven any room. This is the Triple Certified★ I.E.S. Lamp—made in 9 different types . . . thousands of smart styles . . . at prices to fit any budget.

You'll know Triple Certified I.E.S. Lamps by the famous Certificate of I.E.S. Compliance which they bear. *Look for it—insist on it* when you buy, and you'll get lamps that have *everything for everybody.*



. . . for Jimmy's study

. . . for Dad's easy chair

. . . for Mother's mending

. . . for beauty and comfort in Sister's room

★**TRIPLE CERTIFIED** . . . *meet 54 safeguards set up by the Illuminating Engineering Society for sight-saving light—satisfactory service.*

CERTIFIED SHADE

Checked and certified by Electrical Testing Laboratories for sturdiness and sight-saving lighting.

CERTIFIED REFLECTOR

Checked and certified by E.T.L. to protect eyes from glare and help make seeing easier.

CERTIFIED BASE OR STANDARD

Checked and certified by E.T.L. to provide safe, satisfactory service.

Insist on TRIPLE-CERTIFIED **I·E·S LAMPS**

if prescribed by the piece or slice. A physician may decide that toast is of value because of its palatability. Most persons seem to prefer dry toast to butterless bread. Again, it may be prescribed as a mild disciplinary measure. When the more brittle article is ordered for them, patients may more readily appreciate that treatment is under way.

Procaine Hydrochloride and Menstruation

To the Editor:—Would a local anesthetic of procaine hydrochloride at menstruation cause a premature menopause? Can it cause menstruation to cease?

L. C., California.

Answer.—The menstrual function may be disturbed by many factors: change of climate or altitude, bathing in cold water, grief, psychic shock, etc. Thus, it is apparent that a similar disturbance might follow any operation, regardless of the kind of anesthetic used.

Procaine hydrochloride itself does not exert any direct effect on menstrual bleeding and it is inconceivable that a premature menopause might result from its use. Cessation of menstruation at such a time must be considered purely coincidental if not due to the operation.

Should Allergic Persons Marry?

To the Editor:—Will you please advise if it is advisable for two people suffering from hay-fever to marry. One parent of each is also suffering from the same malady.

B. B., New York.

Answer.—The basis for discouraging the marriage of two allergic individuals would be the greater possibility of allergy in the progeny. It is generally believed that there is a hereditary predisposition for allergy. If only one of the parents is allergic, the transmission is to about 50 per cent of the children; if both parents are allergic, about 75 per cent of the children will be similarly affected. While the tendency to become allergic is transmissable, the type of allergy in the children may be either the same or different. For example, the children of asthmatic parents may have hives, or eczema, rather than asthma. The type of allergy may either be mild or severe and is, so far as is known, not related to the severity of the symptoms in the parents. A percentage of children will be non-allergic.

While from a eugenic point of view, the ideal decision should be to avoid marriage between two persons who are definitely allergic, this is seldom practicable or advisable, because of much more cogent and important considerations. Because of the difficulty in human beings of deciding, in most cases, what the hereditary strains may be, marriage between two apparently non-allergic individuals may, nevertheless, result in allergic children. The transmission of these tendencies may be from previous generations, whose history is not known. For such reasons, allergy as a consideration in contemplated marriage should be regarded as of secondary importance.

Iron Stain on Teeth

To the Editor:—Could you kindly let me know whether the black staining of the teeth due to iron causes serious damage to the tooth structure, that is, the enamel, etc.? Will the stain wear off in time without the use of abrasive powders?

J. C., Massachusetts.

Answer.—Certain compounds containing iron yield an acid solution when placed in water. These solutions may attack the enamel of the teeth causing a superficial etching. Traces of the iron compounds remaining on the etched surfaces are changed to a black stain. If the use of relatively strong solutions of such iron preparations is prolonged, the destruction of the tooth enamel may become quite extensive and the black discoloration pronounced.

The black discoloration produced by iron salts is best removed by a dentist by means of abrasive agents. Great reliance should not be placed upon the natural forces of attrition or abrasion to remove the stains, particularly if they are of long standing.

Iron preparations when prescribed usually are taken well diluted with water and preferably through a glass tube extending rather far back into the mouth. It is especially advisable to rinse the mouth well with water immediately after taking the medicine.

Cancer of the Breast

To the Editor:—What percentage of women die from cancer of the breast?

A. B., Illinois.

Answer.—It is said that one out of 450 women has cancer of the breast. According to the Federal Census, in 1938 there were 14,460 deaths from cancer of the breast—all but 156 in women. This accounted for 9.5 per cent of all cancer deaths in that year.

Eyes Open During Sleep

To the Editor:—My baby, during the latter part of his nap, sleeps with his eyes half-opened. Is this a significant symptom?

M. B., New York.

Answer.—During the first few days of life about 10 per cent of infants sleep with their eyes open or partly shut. At birth all the muscles and the nerves which regulate the activities of these muscles are well-developed. The eye itself, however, is comparatively large in proportion to the muscles which guard it. There may be instances where these muscles are not fully grown to cover the entire eye. During this early period, the condition is of no significance so long as the cornea, (the transparent part of the eyeball with the iris and pupil) is not exposed. Usually the eyes roll upward in order that this sensitive part may remain protected from injury or dryness.

This condition is at times carried over to later childhood without harm to the eye. If it exists beyond the second year, the child should be examined by a competent oculist to ascertain that there are no defects in the muscles or nerves which regulate the opening and closing of the eye.

Breast Pain Prior to Menstruation

To the Editor:—I would like to know what causes the breasts to become sore and tender before the menstrual period. Does this signify a cancerous condition, or possibly a tumor?—or is it re-

lated to ovulation? Does this condition designate that ovulation has occurred?

R. M., Washington.

Answer.—Tenderness and soreness in the breasts before menstruation does not signify the appearance of cancer or of any other tumor. Early cancer of the breast is without pain. Pre-menstrual pain is due to the congestion of the breast which occurs as menstruation approaches, together with the effect of an endocrine imbalance. The pain felt in the breasts of women approaching the menopause is caused by a similar hormonal imbalance and often may be relieved by proper treatment. The pain is felt just before menstruation comes on, sometime after ovulation, which occurs about midway between the periods. The discomfort may be relieved by the administration of the proper hormone, although in most cases of premenstrual discomfort the need for treatment is not great. Estrogenic therapy often gives marked relief in the breast pain of the menopausal or premenopausal years.

Soaking Vegetables in Water

To the Editor:—What is the net result of soaking vegetables to "revive" them?

D. B., Illinois.

Answer.—When vegetables, either withered or fresh, are soaked in cold water, they lose a certain amount of vitamin C, vitamin B_1 (also known as thiamine) and vitamin G (also known as riboflavin)—the water soluble vitamins which are present in vegetables. The amount lost depends on the vegetable. For example, the white potato loses from 15 to 25 per cent of its vitamin C content when pared and left standing in water for three or four hours.

Ordinary drinking water contains neither vitamins nor minerals and, therefore, the vegetables gain only water.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

CANADA'S GIFTS TO *Beauty*

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THE RESTLESS COLON (Continued from page 106)

your condition, and also advise you on the essentials of a well balanced diet.

Tumors occur frequently in the gastrointestinal tract, and the colon is their most usual site. Tumors are of two kinds, the so-called benign or noncancerous, and the malignant or cancerous type. Some of the benign tumors, unless removed, become cancerous in the course of time.

A tumor may produce one or more of the symptoms ascribed to the restless colon. Moreover, cancer is constantly growing and encroaching on the passageway of the colon, so that finally it becomes partly closed or completely obobstructed. Abdominal distention and pain, severe constipation, distaste for food and nausea may follow; and later anemia and loss of weight.

Popular educational campaigns for the early detection and control of cancer have discovered many cases that otherwise would have been neglected. At the same time, they have engendered in the minds of some people a phobia or fear of cancer. Because of this, sensible persons obtain a suitable examination which either confirms their fear, or proves that it is groundless. Unfortunately, some otherwise rational people, because of their fear, avoid an examination. Obviously, this attitude is ridiculous, for if cancer is present it is progressive in its growth and soon it will manifest itself by its symptoms. Then, it may be too late for any measures to effect a cure. However, if the examination is negative for cancer, or shows that the signs and symptoms are due to some other disease amenable to treatment, the fear vanishes and the anxiety, which plays havoc with the nervous system, is dissipated.

Any one of these conditions may produce the symptom complex of the irritable or restless colon. Some of these factors cause disturbances of the physiology or normal function of the colon, while others are organic in nature. Factors solely affecting function range from various states of anxiety, worry and depression, to food allergy, improper function of the endocrine glands and vitamin deficiencies. But the factor may be organic, causing actual changes in the tissues of the intestinal wall. Striking examples of organic changes are ulcerative diseases, which may result in perforation or stricture of the bowel; and tumors, notably cancer.

The conclusion to be drawn from these statements of fact is that if you have symptoms referable to the colon, obtain a thorough examination by a competent physician. For the colon, this may have to include one or more of the following measures: inspection of the interior of the bowel through specially lighted instruments, selective laboratory examinations of body secretions and excretions, examination of the blood and specimens of tissue, and an x-ray study.

It is an error for a patient to try to select his own specialist, for the many specialized branches of medicine causes a dilemma for the perplexed patient in choosing the kind of specialist he needs. In other words, he must first diagnose the nature of his own ailment. Self-diagnosis is hazardous and is so apt to be wrong that doctors themselves, when ill, consult other physicians. The well-rounded experience of the general practitioner enables him to cope successfully with 85 per cent of our ills. If the diagnosis is not clear, or the method of treatment is in doubt, the general practitioner will call in a specialist who possesses the special skill and knowledge needed for your particular case. Thus, you promptly obtain correct advice. You will not waste time and squander money in the vain effort of going from one specialist to another, because of the folly of trying to diagnose your own case which, in fact, is being your own doctor.

There are few ailments that today cannot be recognized by an adequate survey of the patient. This is notably true of irregularities of the colon. Positive findings afford an opportunity for timely treatment, while negative findings dispel baseless fears.

LETTERS FROM READERS (Continued from page 85)

HYGEIA. Laymen are not alone, however, in having an undue apprehension about "raw" milk.

Admitting the need of pasteurizing the bulk of market milk—since it comes from a variety of sources and is often carelessly produced—no one should think that all fresh, natural milk (so-called "raw") belongs in this class.

I am not familiar with the health regulations of your correspondent's state, but I do know that New York requires all cows to be given Bang's test if the milk is to be sold without having been pasteurized. Cows must also be tuberculin tested, thus avoiding any danger from these sources. (Less than one half of 1 per cent of all cows in the United States now react to the tuberculin test.)

In every city there are many persons who dislike the taste of pasteurized milk. Too often they go to the country for their supply, buying the cheapest and most dangerous milk. If these persons would confine their purchases to products sold by licensed distributors, the element of danger would be largely removed.

I know of dairies that have retailed "raw" milk for nearly half a century without the appearance of any milk-borne disease whatever. Needless to say, milk must be produced with more than ordinary care to meet such a test.

T. H. TUTTLE
Manlius, New York

Even though raw milk might be produced with meticulous care and without the appearance of any milk-borne disease for more than half a century, the Council on Foods and Nutrition of the American Medical Association has repeatedly emphasized that all milk should be pasteurized.—ED.

Deadly Disease Number 9 —Diabetes

To the Editor:

Thank you for a most worthwhile article by Dr. Elliott P. Joslin. I know I am not the only diabetic

who appreciated reading it in HYGEIA. Once I wrote you, "Dr. Joslin writes with a whole world of human understanding." Then I laughingly added, "Far be it from me to accuse such a fine person of telling white fibs, but if there is any way of slanting a story to the diabetic's advantage, Dr. Joslin would be the one to do it."

That statement was not fair. In cold print it looks much different from the way I meant it. Reputable doctors simply do not "slant" stories, if they are to remain reputable. I meant, of course, that whatever there is to be said about the diabetic, Dr. Joslin finds the kindest and most humane way of saying it. But that most certainly does not mean that he sacrifices accuracy for effect—ever!

MRS. SAM D. STABLER
Indianapolis, Ind.

FOURTH OF JULY FIREWORKS TOLL

In spite of the fact that in 1940 the number of deaths due to the celebration of the Fourth of July with fireworks and other explosives was 8 as compared with 13 the previous year, the number of injuries and fatalities still resulting from this unnecessary cause makes clear the need for additional legislation and effective enforcement, the Fourth Annual Summary of such data by The *Journal* of the American Medical Association reveals.

MAINTAINING TYPHOID IMMUNITY

Yearly revaccination to maintain immunity against typhoid is advisable, and certainly the procedure should not be done less frequently than once in two years, Don Longfellow and George F. Luippold Washington, D. C., state in the *American Journal of Public Health.* Revaccination should not be discontinued because of age or because of any number of previous revaccinations, they say. It is preferable to administer the vaccine by injections into the skin, although injections beneath the skin may be employed as an alternative method.

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What we know about INFLUENZA

A special article written for HYGEIA by the United States Public Health Service

THERE are many questions about influenza in the public mind that demand answers. First among these, perhaps, is the probable time when we may expect another severe epidemic such as that of 1918. Influenza is apparently a disease that is present at all times. Minor outbreaks, usually mild, may appear at any time, ordinarily during the winter months. At irregular intervals great epidemics, more severe in form, appear and sweep over large areas, even involving the whole world. The last two such widespread epidemics occurred in 1889-90 and in 1918-19. They were characterized particularly by rapid spread, individual severity of cases, high incidence of complicating pneumonia and high attack rate. House to house surveys made in several cities of the United States in 1919 indicated that in some communities as much as half the total population had been attacked. The average rate was 280 per thousand for all cities surveyed. Jordan estimated more than 21 million deaths in the whole world for this one epidemic; this was in excess of 1 per cent of the total estimated world population at that time.

Another pertinent question at this time is just how much our knowledge of this disease has increased during recent years. Perhaps the greatest advance was the discovery in 1933 by the British workers, Smith, Andrewes and Laidlaw, of a filter-passing virus which is now generally accepted to be the causative agent of the disease. This virus is present in the nose and throat during the first few days of illness; it was demonstrated by transferring throat washings from human cases to the respiratory tract of ferrets. These animals are susceptible to the disease, developing a typical fever and pneumonia within a few days after inoculation. Once established in the ferret, it may be readily transferred to other ferrets and to certain other animals. After isolation in animals, the virus was also reported successfully transmitted to susceptible humans by a group of Russian workers. If healthy ferrets are placed in the same cage for a short time with ferrets in the acute stage of influenza, the healthy animals will contract the disease, undoubtedly by spread of the virus through the respiratory tract. It thus seems well established that influenza is a highly contagious infection which is spread by discharges from either the nose or the throat.

Since the original discovery of the virus in 1933, more than a hundred strains have been found in different parts of the world. It has been shown that many of these strains are closely related; others, however, are not. The fact that many different strains of the virus exist and that infection with one strain does not necessarily confer immunity upon the individual against other strains, has seemed until recently to exclude the possibility of successful vaccination. Horsfall and Lennette of the Rockefeller Foundation recently reported the discovery of a new type of vaccine which apparently produces immunity against many different strains of influenza virus. They found that if a vaccine is made by combining the viruses of both distemper and influenza in a certain manner, vaccination with the resulting vaccine resulted in immunity not only against the particular strain of influenza virus used in making the vaccine but also against all the other strains of type A influenza virus which they tested. By type A is meant the whole group of similar virus strains isolated between 1933 and 1940. This new vaccine is now being carefully tested for evidence of actual protection of vaccinated persons against the naturally occurring disease and is not yet ready for release to the public. If the vaccine fulfills its early promise it would appear to offer a valuable means of control against epidemics.

Thomas Francis Jr. has recently reported the discovery of a new type of influenza virus, type B, which appears to be distinct from the previously known type A. There is some evidence that these two types have been appearing in this country in alternating two-year cycles. Infection with one type does not seem to produce immunity against the other.

Influenza is usually a mild infection if uncomplicated by secondary bacterial invasion. Fatalities are most often due to the developing of pneumonia which may be caused by any one of several different types of bacteria, such as the streptococcus, pneumococcus, Pfeiffer bacillus and others.

The marked predisposition to the development of pneumonia in cases of influenza during severe epidemics is readily understood when the action of the virus within the lung is considered. It has been shown both in animals experimentally infected and in human lungs at autopsy that the influenza virus has a specific destructive action on the living surface cells of the small air passages in the lung. Some of these cells die as a result of the action of the virus and are then sloughed off, leaving the underlying surface exposed and unprotected against bacteria, which, if present and possessing sufficient

(Continued on page 159)

What you should know about INFLUENZA

Influenza, one of the most widespread and destructive diseases of man, still remains unconquered, although a number of the great epidemic diseases have fallen before the determined technicians of medical science. Numerous factors are responsible for this lack of progress in the prevention and control of influenza. For example, the exact cause has not been determined for all types of influenza. The short period of development without recognizable symptoms permits the affected person to continue his normal routine, thereby spreading the disease to many others before he is sick enough to go to bed. Isolation of such large groups is not practical. Finally, since immunity following infection is of short duration, one year or less, a significant proportion of the population is continuously susceptible to the disease.

Cause

The cause of influenza is at present believed to be filterable viruses of different strains, one of which has been isolated. Viruses are active agents too small to be seen with any microscope. Various other types of bacteria may cause complications in the disease.

Transmission

The virus is present in the discharges from the mouth and nose. Coughing and sneezing spray the infecting agent into the air. These small droplets of moisture may be inhaled by persons nearby. Articles freshly soiled with discharges from the nose and throat of sick persons may transfer the virus. There is no evidence that the virus is ever carried in drinking water or milk. Man is the carrier of influenza.

Symptoms

Symptoms of influenza are observed within 24 to 72 hours following invasion of the body with the virus. Typically, it is a more severe infection than the common cold. Fever and general muscular pains in the back, head, and limbs develop and usually last about a week. "Flu" leaves the patient exhausted out of all proportion to the length of time he is ill.

The most serious and important complication following influenza is pneumonia, which may be severe and sometimes fatal. Other serious complications are infections of the ears, or sinuses and bronchitis.

Laboratory procedures have no practical value in determining the diagnosis of influenza with certainty. In its initial stages, influenza is frequently indistinguishable from the common cold.

Precautions

It is believed that there is more danger of spreading the disease from persons in the early stages of "flu" than from those ill enough to be in bed or those who are recovering. In any case, unnecessary contacts should be avoided. Since few, if any, can hope to escape contact, it is not rational to become panicky or to attempt to avoid infection in too elaborate ways. Experience in previous epidemics has taught some valuable lessons. The closing of public, parochial, and private schools has not been effective in checking the spread of influenza. Relatively simple hygienic practices and rules of life are the most helpful. The persons who try to keep on their feet and "stick it out" are those who contribute the greatest numbers to the death rolls. In their weakened condition, secondary invading germs gain a foothold and permit the development of serious complications.

In protecting himself from influenza, a person can generally do as much as any one else can do for him, if not more.

What to Do Before Infection

(1) During an epidemic, avoid needless contact with others, especially people who are coughing, sneezing, or sniffling.

(2) Avoid exposure to inclement weather, but take advantage of as much open air and sunshine as you can.

(3) Be sure that your home is well ventilated at all times; but avoid drafts.

(4) Eat a well balanced diet; drink plenty of water.

(5) Guard against fatigue; get plenty of rest and sleep.

(6) Wear clothing suitable to the weather.

What to Do After Exposure

(1) At the first sign of a cold and especially if you have fever—go to bed and stay there until your doctor says it is safe to get up. By so doing, you may prevent serious complications and check the spread of the disease to others.

(2) Cover all coughs or sneezes with a handkerchief, preferably paper tissues which should be promptly burned.

(3) Do not encourage visitors.

But above all do not indulge in self-diagnosis or self-treatment. Consult your doctor.

BOOKS ON HEALTH

Food Nutrition and Health

By E. V. McCollum, Ph.D., Sc.D. and J. Ernestine Becker, M.A. Cloth. Price, $1.50. Pp. 127. Baltimore: E. V. McCollum and J. Ernestine Becker.

The fifth edition of this book continues the reputation earned by the earlier editions as a useful compact book of established facts about nutrition. The book begins with a preview of mankind's experiences with food and then considers in successive chapters vitamin A, thiamin, riboflavin, nicotinic acid, ascorbic acid, vitamin D, vitamin E, vitamin K, the mineral elements in nutrition and the dietary properties of various commonly used foods in which the authors show what can and what cannot be accepted through diet for pernicious anemia, preventive dentistry, pregnancy and lactation, the nervous system, the digestive tract and weight control. They also point out some of the common fallacies which have and are still doing much harm to credulous and uninformed people.

Of practical importance to the meal planner is the discussion of a system of diet which promotes health. Included in this chapter is a table showing the distribution of vitamins A, B_1, C, D and riboflavin in foods expressed in terms of actual units per ounce of food and suitable menus for winter, spring and summer for persons of normal weight and persons of overweight.

This book can be recommended without reservation for persons interested in accurate information on foods, nutrition and health.

HARRIET MORGAN FYLER.

Mosquito Control

By William B. Herms, Sc.D., and Harold F. Gray, Gr.P.H. Cloth. Price, $3.50. Pp. 317. New York: The Commonwealth Fund, 1940.

This volume was prepared for use as a practical handbook on mosquito abatement for use by physicians, engineers and entomologists, and also as a source book for all persons interested in those phases of public health and economy in any way affected by mosquitoes. It will undoubtedly fulfill its purposes very well. The authors trace the history of mosquito control and discuss the losses brought about by mosquitoes, both as vectors of disease and as nuisances. They give many examples of the laws and agencies which have been set up to combat mosquitoes. To directors of anti-mosquito campaigns, the chapters on the preliminary steps to be taken and the technics for handling the publicity and other means of education should be especially helpful. The greatest portion of the volume is devoted to the procedures for effecting control through mechanical, toxic and naturalistic methods. The book reflects the wide experience of the authors and draws on the published works of many authorities in other sections of the country and of the world. Although in no sense an entomologic monograph, the book devotes enough attention to the varied biology of the different species of mosquitoes to give the reader an appreciation of the complexity of the problem, and then shows how the complexities can be ingeniously surmounted.

CLAY G. HUFF, Sc.D.

Adaptation Processes in Public School Systems

By Philo T. Farnsworth, Ph.D. Cloth. Price, $1.85. Pp. 136. New York: Bureau of Publications, Teachers College, Columbia University. Contribution No. 801. 1940.

This is a research monograph published by Teachers College. It is a discussion of five changes that have occurred in the educational system of this country during the past one hundred and fifty years:

(1) Library extension in the schools of New York.

(2) Classes for "educationally exceptional" children in the schools of Connecticut.

(3) State supervisory agents in the schools of Connecticut.

(4) Vocational education in the schools of Massachusetts.

(5) Medical inspection in the schools of Massachusetts.

Under the first heading there is a discussion of the library developments in the State of New York since the sixteenth century, how the libraries were founded and how they began to cooperate in the public school system until they became an integral part.

Under the second heading there is a discussion of special classes for the mental defective, the deaf and the blind, as they were first developed in Connecticut.

The third division is a discussion of how supervision of classes was developed in Connecticut and spread over the rest of the country.

Under the fourth heading is a discussion of vocational training which started first in Massachusetts in 1720 by the founding of a school for teaching children to spin. From this modest beginning developed the vocational education of the United States.

The fifth division discusses medical inspection which started in the schools of Massachusetts.

The last chapter of the book is a discussion of how education is constantly changing itself to meet the social, economic, moral and spiritual needs of society.

The narrative part of the book is clearly written. It shows that the author has put a great deal of careful and painstaking research into this work. I found the discussion of the historical development of the five additions to education very interesting.

In the part of the book devoted to discussion of the research material, the style is obscure and difficult; at times it degenerates into what we might almost call a scientific jargon.

SMILEY BLANTON, M.D.

Americans Live Longer

By W. W. Bauer, M.D. Cloth. Price, $2.00. Pp. 219. New York: Bobbs-Merrill Company, 1940.

The increase of twenty-five years in the length of life of the average American during the past century is the subject of the first portion of this interesting and informative book for the general reader. The reasons for the increase in the length of life are analyzed and the possibilities for further increases considered.

The second portion of the book is devoted to a sound and practical consideration of the health problems of middle age and beyond. Present scientific knowledge concerning heart disease, high blood pressure, cancer, diabetes, arthritis and the glands of internal secretion is skillfully summarized in non-technical language with the emphasis upon the maintenance of health as well as on the prolongation of life.

The final chapters present the author's philosophy of living and the more important adjustments which need to be made by most persons past middle age if they wish to enjoy good health and live out their life expectancy. That "health is not the primary end of life" is one of the author's premises which most readers will agree with. Yet, as he says, for most of us health is necessary for accomplishment and for the enjoyment of life. For this reason, it is worthwhile for every one to be informed about, and to put forth some effort toward the maintenance of health.

This book, which is unusually readable as well as scientifically sound, is a real contribution toward the attainment of this objective. It merits a wide reading audience.

HAROLD S. DIEHL, M.D.

Fencing

By Joseph Vince. Cloth. Price, $1.00. Pp. 62. New York: A. S. Barnes and Company, 1940.

In this handbook Joseph Vince, outstanding authority on this sport, describes the fundamentals of fencing with the foil, the epee (duelling sword) and the saber. The author gives, in simple language, detailed descriptions of the various positions, feints, parries, attacks, etc., used in this sport. The book is profusely illustrated. A series of exercises with each of the weapons used in fencing is suggested at the end of each section.

Z. W.

Successful Parties

By Louise Price Bell. Cloth. Price, $1.50. Pp. 220. Illustrated. New York: Fleming H. Revell Co., 1940.

This book contains parties for children and adults for indoors and out. The suggestions are varied to meet the needs of all types of people. For some of the parties, menus are suggested, while for others there are merely suggestions on what to serve. Centerpieces for the table are also described. Games are outlined for each of the parties, or suggestions are made for them. The book also contains a list of 140 quizzes, which are always fun at any party.

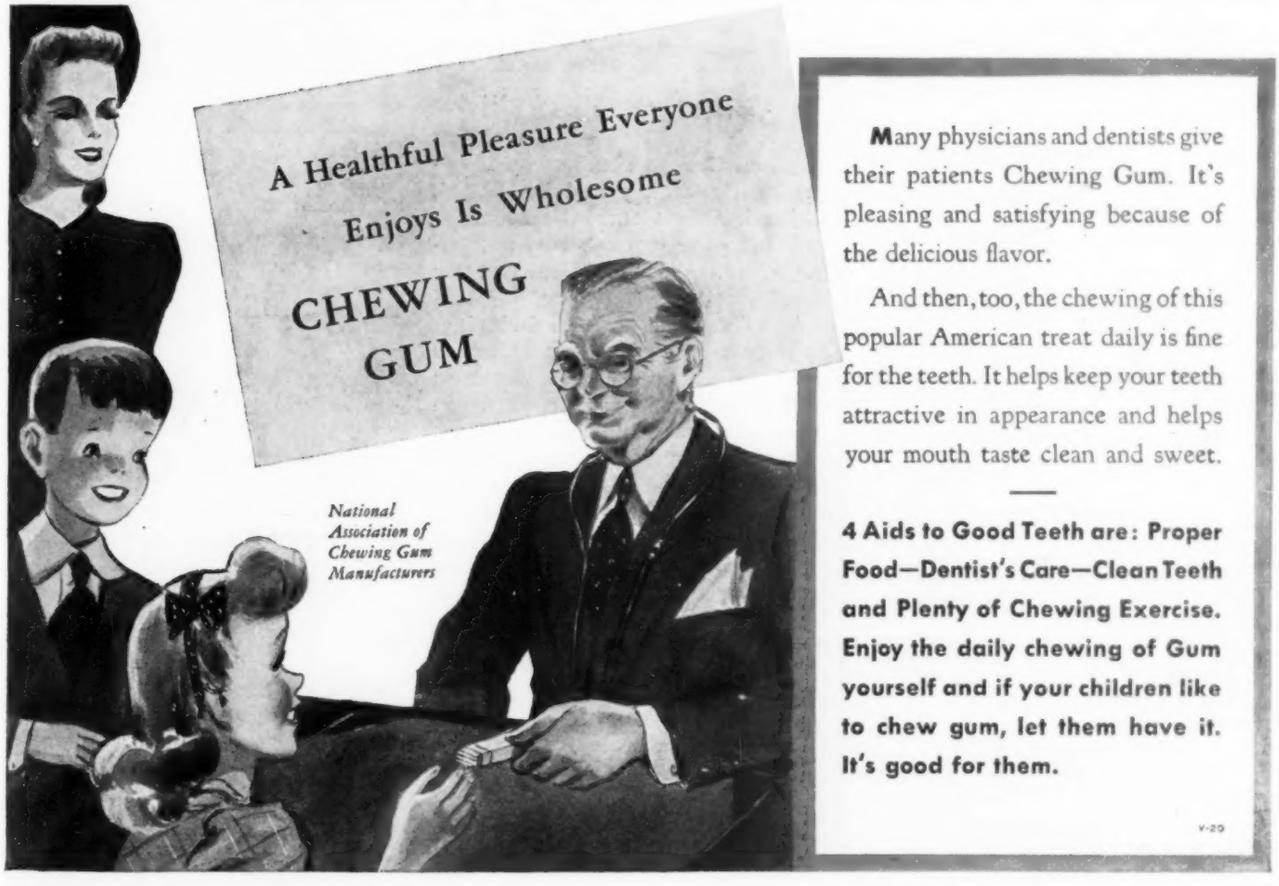
The expenses of these parties are in accord with the limited budget. Every modern housewife who prides herself as a successful hostess will want to own "Successful Parties" for new ideas.

LEONORE WAGNER.

Manual of the International List of Causes of Death and Joint Causes of Death

By U. S. Department of Commerce. Cloth. Price, $1.25. Pp. 452. Washington, D. C., 1939.

This booklet contains the fifth revision of the International List of Causes of Death and includes the fourth edition of the Joint Causes of Death. The International List is not primarily a scientific classification of diseases, but is rather a practical guide for registration officials and for statistical classification of causes of death. It is the stand-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American Medical Association

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ard for recording mortality figures in this country. The Manual of Joint Causes of Death is a guide to show what International List title should be selected as the primary cause of death when two or more causes are reported on the same death certificate. This book, then, is a guide to physicians and statisticians but holds little interest for others.

E. P. Jordon, M.D.

Sport for the Fun of It

By John R. Tunis. Cloth. Price, $2.50. Pp. 340. Illustrated. New York: A. S. Barnes & Co., 1940.

This handbook of twenty sports, including the official rules, is probably the most attractive and best written work of its kind that has been made generally available. It offers interesting bits of information about the beginning of all sports and provides the technical rules to enable any one to practice these sports as they were intended to be played. This is a handbook that will be useful to every school and college library and useful, as well, to every teacher interested in physical education. The illustrations are delightful.

M. F.

A College Textbook of Hygiene

By Dean Franklin Smiley, A.B., M.D., and Adrian Gordon Gould, Ph.B., M.D. Cloth. Price, $2.50. Pp. 539. New York: The Macmillan Company, 1940.

This is the third edition of the excellent College Textbook of Hygiene by Dr. Smiley and Dr. Gould, which has been current since 1928 and has gone through two preceding editions, both excellent in their time.

Aside from a general bringing-up-to-date and expansion of topics previously presented, the book is characterized by a change in scheme of presentation by which community hygienic measures are presented in relationships to personal hygienic measures for the same disease. Thus, the authors present the whole story of tuberculosis, for example, in one place instead of giving, as formerly, the personal aspects of the problem in one place and the community aspects in another. This would seem, as the authors indicate, a decided improvement in handling. By adopting this method the authors have produced not only a college textbook of personal hygiene, but at least an introduction to community hygiene. The material is well presented, well organized, attractively and graphically illustrated and constitutes in its entirety a valuable book either to follow as a textbook or to utilize as a reference volume. Particularly well handled is the chapter "You and Your Doctor," which helps to orient the reader with respect to how and where medical service can be procured. The difficult subjects of cultism, sectarian practitioners and quacks are handled with discretion and yet with sufficient toughness to constitute a general warning to the intelligent reader against the hazards encountered in choosing a genuine doctor among all those who lay claim to that classification.

In relation to the so-called socialization of medicine a number of statements pro and con are given together with the authors' recommendations which do not differ in principle from those of the American Medical Association's platform.

W. W. Bauer, M.D.

Science Picture Parade

By Watson Davis. Cloth. Price, $3. Pp. 327. Illustrated. New York: Duell, Sloan & Pearce, Inc., 1940.

Here are pictures of modern science listed from A to Z in one of the most fascinating works that is now available. Atoms, electricity, health, industry, light and even war are briefly discussed from the scientific point of view and each of these subjects is illustrated with specially selected illustrations from innumerable sources. Here is science in the news by an experienced science reporter.

M. F.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through Hygeia or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

A. S. Barnes and Company, 67 W. 44th St., New York City.

Bobbs Merrill Company, 724-730 N. Meridian St., Indianapolis, Ind.

Bureau of Publications, Teachers College, Columbia University, New York City.

The Commonwealth Fund, 41 E. 57th St., New York City.

Duell, Sloan & Pearce, Inc., 270 Madison Ave., New York City.

E. V. McCollum and J. E. Becker, East End Post Station, Baltimore, Md.

The Macmillan Company, 60 Fifth Ave., New York City.

Fleming H. Revell Company, 158 Fifth Ave., New York City.

United States Department of Commerce, Bureau of the Census, Washington, D. C.

Almost every substance known to man will cause an explosive reaction in sufficiently sensitized persons, and cosmetics have proved no exception.

Stephen Deutch

DOCTORS at WORK!

Continuing with the dramatic medical series, DOCTORS AT WORK, the American Medical Association and the National Broadcasting Company present the story of Tommy Riggs, young American physician. Broadcasts are at 10:30 E.S.T. each Wednesday evening (one hour earlier C.S.T.; two hours earlier M.S.T.; three hours earlier P.S.T.).

February 5: NEW FACES FOR OLD

Pointing out that real plastic surgery can be of tremendous benefit, but that it pays to be watchful for those who promise more than they can deliver.

February 12: MEDICAL DETECTIVE

Disease is the criminal; symptoms, physical signs, and laboratory reports are the clues; the diagnostician or internist is the medical detective; the diagnosis is the solution.

February 19: ONE MAN'S POISON

Proving that good food, simple cosmetics, clothing, pets and flowers may bring about illness in allergic persons.

February 26: EXPLORING MAN'S MIND

The fascinating story of why men and women behave, misbehave, and suffer from unhappy situations and mental diseases.

Radio columns in local newspapers should be consulted to verify local time.

HEALTH and NATIONAL DEFENSE

(*Continued from page 93*)

A Doctor came to us from Boston. He told us of the relation of posture to health—if you will, of posture to posterity. Then there came to us each year physicians from Cleveland, from Cincinnati, from Lexington, from Louisville, and in the course of the years, they have examined the eyes, the hearts, the lungs, of possibly 30 thousand young people; and this group of young people is joining other groups of young people in preaching to the Mountains the gospel of health; and these people one day will find their places, manning the ramparts of our country.

But we do not beguile ourselves with the delusion that we may safely entrust the national defense to men and women whose sole equipment is sound teeth, and lungs, and hearts. Bombing planes show a strange lack of discrimination. The athlete and the invalid alike crouch helpless and futile in the raid-shelter. Tanks delight to crush healthy bodies.

We must minister to minds diseased, to wills shell-shocked in the warfare of life. One man cherishes a Jehovah complex, like a cockerel on his dunghill imagines that his crowing wakes the sun to run its daily race. Another with an inferiority complex hides in the trenches, in life's dark corners, like one born scared. We must seek to clarify minds, so that they shall see life steadily, and see it whole; we must seek to strengthen wills to endurance and adventure.

To endurance: Here is the London woman, whose home is a mass of debris thrust into a hole in the ground. Upon the debris she posts a sign, "Home's gone, spirit hasn't." You have read Anne Lindbergh's quotation from an English correspondent, "Safety doesn't exist, but who minds about safety?" You may have seen the slogan which they are pasting on Canadian automobiles, "Chins up; there will always be an England." Endurance, which can *take* it, and never whimper. Men and women of such endurance are the true defenders of a nation.

To adventure: You recall Churchill's word concerning the deeds of the Royal Air Force: "Seldom did so few men do so much for so many." Now and then it seems as if war regimented us all, and that is partly true. It is one of the nameless tragedies of this war that it constrains our boys, British and German alike, to hurl themselves into a rivalry of devastation; but think of the adventure of it; the lonely airman sweeps like lightning over the sea, through the clouds and snow and storm, into the midst of pursuit planes and search lights and anti-aircraft guns, a tiny gladiator of the sky. This is the will to adventure.

A healthy herd of buffaloes is singularly defenseless. Even a race of top sergeants would not necessarily suffice to defend a nation. The will to endurance and the will to adventure, which Admiral Byrd revealed in his lonely Antarctic shelter, in some way we must help to bring these to our people.

Again, we are immediately concerned with what has been called public health, which swiftly swings from a problem of the city and the country to an international problem. We talk feverishly of the Fifth Column. Every slum, every polluted stream, every unclean milk bottle, every disease germ let loose upon the community, belongs to the Fifth Column, weakens the national defense. Without too much trouble we can keep from our shores the enemy alien, as usually described. Do you remember the southern camps of the Great War? Do you remember the sorrowful boxes piled high at the camp railroad stations, boxes containing caskets of soldier boys killed by influenza? Perhaps then the pest came from European army camps. About the same time India was telling a similar story. There, I was told, 5 million people were killed by the pest, a pest which, perhaps, started upon its world journey from the far reaches of northeastern Asia. What apparatus can keep this, and like enemy aliens, from our shore? No man can give the complete answer. Each man may help to find the answer.

I wish I knew the relation of the medical fraternity to the following letter. I am sure that there is a relation. It is a recent letter from a girl:

"Last year I got a job teaching school in . . . I was just innocent enough to believe that I could make good even if my folks were on the wrong side of the political fence. . . . Saturday I was called in by a representative of the school board, and asked to contribute $25 to a fund for buying votes in the coming election. I could do that, or someone else would take my job. Which did I prefer? I'm not starving, but I have three brothers in school, and there are three small children here. My father is not able to work."

It has been said that in order to create an effective democracy, "the individual citizen must be something of a saint, and something of a hero." Now, here is a man on a school board, who is something of a crook, and more than something of a yellow cur. I should be willing to swear that he does not bear a German name. Talk about the Fifth Column!

Where shall we find men who will face danger without fear, defeat without dismay, victory without conceit, men who would face poverty rather than shame, and their own death rather than the death of one of God's little ones? Once-born men can never save this country. Of all the idiotic ditties perpetrated by service clubs upon a long-suffering public, commend me to this:

"It isn't any trouble just to grin,
grin, grin;
If you're in any trouble, it will
vanish like a bubble,
If you'll only take the trouble just
to grin, grin, grin!"

Within the past year there has died one of the defenders of America, John Finley, editor of the New York Times. He smiled, but he did not know how to grin. A while ago he sent me a Christmas card. It represented a youth, staff in hand, knapsack upon back; steadily he was tramping, his eyes fixed on the path ahead. Beneath were the words, "A la Sainte Terre,"—To The Holy Land. The card bore the message of his life. Finley was a

(*Continued on page 159*)

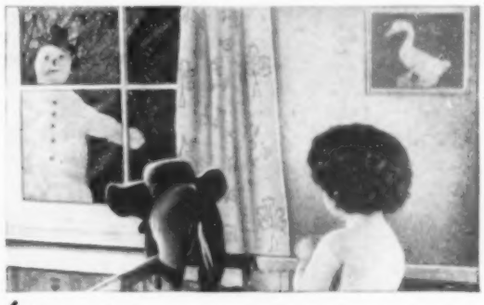
Lucky Baby

HER MOTHER KNOWS EXACTLY WHAT TO DO ABOUT THE SCARCITY OF VITAMIN D IN MOST FOODS

1. **"It's too bad** that one of the vitamins I need most of all should be the scarcest in natural foods! Think of it—no vitamin D in fruits, vegetables, natural cereals or meat. That's why some food companies fortify their products and dairies irradiate their milk."

2. **"The reason** vitamin D is so vital is because I can't build strong bones and a good set of teeth without it. The calcium compounds in my foods simply won't behave unless I get plenty of vitamin D, too. I might even get rickets, and you know what that means!"

3. **"They tell me** nature didn't bother about vitamin D in foods, because the ultra-violet rays of the sun are supposed to make vitamin D in our own bodies. But the winter sun would give me only one-quarter of its summer strength in ultra-violet radiation—and I need it all."



4. **"Mommie knows** that the only vitamin D I get is what she gives me. That's why she bought me a G-E Sunlamp. Its ultra-violet rays have an effect similar to the sun's. Now I get as much ultra-violet effect in six minutes as in two whole hours under the winter sun. And it's more fun!"

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General Electric Co.,
Advertising Dept., EG-132, Bridgeport, Conn.

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Growing Up Together: II

***HERMAN M. JAHR** concludes an analysis of the parent-child ralationship by considering several behavior problems that are most likely to arise in the older child*

Children may resort to various misbehavior technics to recapture the respect and tribute they possessed before the advent of a new competitor in the family.

A FIVE year old girl deliberately and repeatedly assaults her infant brother when no one is around. Another young lady of 5, with a sunny disposition, develops temper tantrums, and in a general way reverts to a pattern of behavior suitable to an infant. An alert 6 year old boy becomes an inveterate day-dreamer with all the annoying phases of conduct which his type ordinarily portrays. A talented youngster of 7 becomes subject to uncontrollable headaches, and with these comes an unfortunate change in his whole personality. Paradoxically, each one of these children was the victim of a "blessed event" following a lengthy period of "only-ness." Isolated cases? Not at all. There is hardly a family anywhere which, with the arrival of the second child, is not faced with problems of a similar nature. Jealousy, of course, is said to be the basis of this, as it is of so many other evils.

When the spacing between the first two children is short, a brief period of jealousy on the part of the first child must be expected. However, a 2 or 3 year old child, after passing through a few disquieting episodes, will adjust himself to his new role in the household, and the family will enjoy the happiness to which it is entitled. In spite of the temporary inconvenience to all concerned, the problem is indicative of a natural and wholesome trait whereby the young child is beginning to claim what he considers his rights. He may resort to almost any form of misbehavior because he does not cherish the idea of being deposed as a king to whom, until his competitor invaded the scene, every one in the family circle paid respect and tribute. At such an early age he is not yet ready to have interests outside the immediate domestic haven so that he actually misses the undivided attention to which he had been accustomed.

The problem is different when the spacing of the children is greater than 5 years. A child of school age, who shows prolonged difficulty in adjustment, deserves careful study of his general adaptive capacity. Usually, it is an indication that the youngster has grown so dependent on his mother that he has failed to acquire more serviceable characteristics which would occupy his thoughts and his activities. It is easy to see that

under such conditions the child may remain unwilling, even if he knew how, to immediately sever the maternal apron strings for the mere accommodation of an unsolicited newcomer. If anything, he will redouble his efforts to retain and even exaggerate his dependence upon those who so loyally served him until a rival appeared.

The methods utilized are seldom of the desirable variety. At first the child may be, as one mother described it, "so good that it hurts." But virtue under these, as indeed under so many other circumstances, does not long remain its own reward. More commanding issues are constantly sought in order to attract the limelight.

Virginia had full control of her eliminative functions when she was a year old. At the age of 5 years, two months following the arrival of an infant sister, the young lady began to wet her bed. No physical cause was found for this sudden reversion to babyhood. Her mother volunteered the additional information that in the past few weeks the child had changed considerably. She had been happy and well-behaved. Now she whines and sulks, and at the slightest provocation gives up whatever little food she takes.

Here is another example: Teddy was an only child until he was 6 years old. He was a good little fellow. His parents were certain that he would remain an only child but providence willed it differently. When his brother was 2 months old, the school teacher sent this disquieting report: "Teddy seems to take no interest in class play. He daydreams most of the time. He has become moody and uncooperative." At home, too, he became stubborn and rebellious. Going to bed was an ordeal. His sleep became restless. He would awaken several times during the night, screaming with terror.

While it is true that the large majority of these children and their parents, after a period of stress, come to a mutual understanding of the difficulties, there are cases that carry serious aspects.

Henry Burns was a fine, talented boy. In addition to playing the piano with unusual skill, his colored drawings attracted attention in the community. His mentality was above average, but he maintained a level head. He was a very popular

STYLE LEADERS don't just "wonder about" new ideas. They try them out *themselves* . . . For instance, take Tampax—monthly sanitary protection that does away with pin-and-belt problems and maintains a perfect silhouette in any costume . . .

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Tampax comes hygienically sealed in individual one-time-use applicators, so neat and ingenious your hands never touch the Tampax at all! And a month's supply will go in an ordinary purse. *Now in three sizes:* Regular, Super and Junior. At drug stores and notion counters. Introductory size, 20¢. Economy package of 40 gives you a real bargain.

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lad. With the approach of his eighth birthday, his parents presented him with a brother. Henry appeared neither surprised nor disappointed. To his father's question, "What do you think of our family now?" he answered nonchalantly: "Now we are going to have a real family." He did ask what the baby looked like, but when the description turned out uninteresting he dropped the matter and continued eating. Wasn't he excited, father pursued? "Why should I be? Other kids have brothers, and you don't see them go around excited." This attitude was quite in line with the boy's character and no one who knew him would have expected a different reaction.

According to his parents he seemed to take the baby for granted, and if his enthusiasm for the newcomer was not in evidence, there were likewise no indications of open resentment. Generally he seemed to adapt himself well to his new role as brother.

When the baby was 3 months old, Henry began to complain of headaches. His appetite became poor, but he would eat slowly and quietly until some one volunteered a remark about his decline in health. He would then leave the table and go to his room crying. He was examined by a competent physician and subsequently in a nationally known clinic. The opinion was unanimous that these symptoms were of emotional origin. The parents, however, were not convinced of the absence of grave organic disease.

These cases do not represent the rare types, and they are not in any way spectacular. They are expressive of a condition that may be found in thousands of homes during the family-growth period. The appearance of the second child always necessitates a series of rearrangements and realinements on the part of every member of the household. It is in his effort to meet these new relationships that the older child suddenly finds himself at odds with his domestic status.

The parents, in their eagerness to protect the youngster's sensibilities, too often take it for granted that they have to bend over backwards to compensate for the division of attention occasioned by the newcomer. This is especially true of ultramodern mothers and fathers who have a greater respect for psychologic dogma than for parental tendencies. The application of this blind faith often works havoc with their own equilibrium and with that of their children.

The case of Henry Burns is an excellent illustration of this phenomenon. His father is a successful executive in a large industrial plant, highly respected among civic groups and, ironically enough, his main avocation is boys' work. Mrs. Burns, even today, is full of enthusiasm over the "Newer Knowledge." The family was headed for trouble with Henry long before the second child was born. But Henry was no ordinary lad. He was brilliant and well behaved. His mother had decided not to "overwhelm" her son with "an unannounced competitor." "Forewarned is to be forearmed," she believed, and in spite of advice not to overemphasize the situation, she proceeded with her forewarning on a grand scale.

The first disappointment came when the much-heralded little sister turned out to be a somewhat premature and none too robust little brother. Not that the baby was unwelcome, but a curly-haired sister was expected and much desired. Mrs. Burns came home from the hospital with apologies to Henry, and with the appeal that he must love the newcomer. "He is a part of daddy and mother, just like you are; and brothers, no matter what happens, must love each other and their parents." The boy had heard that before, although previously this exhortation applied to brother and sister. But he accepted the ritual without discussion. "That's the way families grow," he echoed his mother.

At a symphony concert recently there sat next to me a young man. We exchanged remarks on the program and following a brief period of hesitancy he said: "I see you don't recognize me. I am Henry Burns." That I did not recognize Henry was not strange because the boy of 8 when I last saw him is now 20 years old and is 6 feet tall.

I shall let the young man tell his own story. I heard it several times since the renewal of our acquaintance, and I believe that I can reproduce the essence of it with accuracy. Were I biographer, here would be material for a volume of several hundred pages, depicting the vicissitudes of a youth lost in a world which lacks understanding.

"The headaches were real, Doctor; they were not faked. I may have made a little more fuss over them than they deserved, but they bothered me just the same. I was not jealous of the baby, though mother did her best to convince me that I was envious of him. Her objective is still a mystery to me. There is hardly a doctor in the city who has not had an 'opinion' on my case. I had my tonsils out, my sinuses drained, my innards x-rayed, my appendix removed. I took injections of many descriptions and tonics of every variety. I was I.Q.d, psychoanalyzed, threatened and bribed into attempted conformity.

"I barely passed elementary school and high school was a torture that I shall long remember. But I managed to pull through. College appeared a futile step, but I agreed to try it in deference to my dad. The first few weeks were an ordeal. I was terribly homesick. But after a while things began to look brighter. I made creditable showing in my freshman year, and the second year I found myself in the upper third of the class. I have just completed my junior year with very good grades. I shall not return for my senior year, however.

"No, not my headaches. I have not had one since I was 10 years old. I just feel it a waste of time to go back to school. I am a failure. Oh, I can do the work well enough but I don't seem to fit into the scheme of things. I care for no one in particular and there is no evidence that anyone is especially concerned about me. My parents, of course, worry about me a great deal. I seem to disgrace them socially, and they keep after me constantly about my shyness and my self-imposed loneliness. The fact is that I feel neither shy nor lonely. I am indifferent. Sports never interested me; the theater bores me; and when I sit down to read what my mother recommends as an extremely fascinating book, I cannot concentrate for more than a few minutes. I do enjoy playing the piano occasionally, and at times I sneak away to the woods to daub a little paint on a canvas. But I don't kid myself about 'talent.' What really annoys me now is that I am neither happy nor unhappy in my hermitage."

That Henry is playing hero on an imaginary stage is not difficult to understand. Underneath his avowed indifference the young man is fully equipped with traits and attitudes and desires characteristic of his age. He is a capable youth who unfortunately spent the most important years of his early life in solitude and self-pity, aided and encouraged by parental overprotection. His reputation as a misfit followed him from grade school to high school, and from there to college. The first real shock he sustained was at the end of his freshman year when none of the numerous fraternities on campus had solicited his membership. He was so hurt at this slight that at every opportunity he condemned all fraternities as "rackets." When, about a year ago, an invitation was extended him, he "did not have the face" to join.

The role that jealousy plays in this problem is usually exaggerated by parents. The normal child is too much occupied with the advancement of his own interests to concern himself with envy toward others. In his early years he lives in a small universe all his own, emanating pride and importance to those in his immediate surroundings. The fulfilment of his wants, and they are few in comparison with his adult neighbors, spells security. Among his basic needs are parental love and understanding, complemented by a judicious degree of recognition and a liberal allowance for independence. These are necessary to his self-esteem, to his status as a growing human being.

The well disciplined youngster, with the sensible guidance of intelligent parents, will experience little difficulty in meeting domestic competition. In fact, the occasional odd services which he may be called upon to perform in behalf of the helpless infant will add greatly to his feeling of importance and will in many ways increase his own prestige.

It is significant that in each of these cases parental overprotection during the early years was the dominant factor in the creation and the maintenance of the difficulty.

Here is a final example: A 14 year old girl frankly says, "I hate my mother." She does not make the statement in malice, although the conviction of this emotion cannot be doubted. Let us call the girl Helen Smith.

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FOOTSURE Safety BATHTUB MAT

I had seen Helen on two occasions when she was 4 years old. At that time her mother complained that her child "won't eat." It was in the earlier days of vitamin consciousness, when spinach was endowed with fabulous nutritional virtues, and dinner without a lamb chop for a preschool child was considered more useless than a garage without a family car. In fact, Mrs. Smith attributed the whole trouble to the feud over spinach and lamb chops. "I feed her teaspoon by teaspoon. I know that she should be feeding herself, but I don't mind it. I'd do anything with pleasure if I could only make her eat what's good for her."

My advice to allow the girl some freedom in tastes and opportunity for self-service and self-expression met with failure. I recall the consultation vividly because I took over an hour to explain as tactfully as I could the fallacy of the program. I urged Mrs. Smith to sacrifice her pleasant indulgences in order that her little girl might learn some of the benefits of independence. This was in the fall of 1930.

My next visit with Mrs. Smith was last spring. Between apologies and tears, the story was related disconnectedly but ominously, "Helen's disposition is unbearable. She is stubborn, sulky, selfish, disagreeable, insolent and pugnacious. At the slightest criticism she goes into a rage and becomes abusive. She can tell the weirdest lies imaginable even when the truth would be to her advantage." On the positive side of the girl's character, her mother had nothing to offer. "Not a thing, doctor. Why, only yesterday I suggested taking her to a movie during spring vacation. She stared at me for a second or two and blurted out, 'I don't want to go!' I tried to argue with her, but she would not talk. She soon turned to me and said, 'Mother, you and I can never be friends. I hate you.' Then she went into one of her periodic weeping spells which lasted about an hour, and, without a remark, she walked out of the house."

These are the highlights of the complaints registered by Mrs. Smith. The family has grown since our previous meeting. There is a 6 year old boy, whose disposition is irreproachable. "I don't have to feed him," the mother smiles weakly. "Helen never liked him. She used to be so jealous that I never dared to leave the two alone. Even now, I live in fear that in a moment of rage she may do something to him."

I saw Helen two days following this visit, and I have seen her several times since. She conveys a feeling of defiance, hopelessness and futility. She is a good student in high school, the teachers admit, but there are days when she is entirely uncommunicative. On such occasions she can be reached neither by praise nor by threat. She has a terrible inferiority complex, some people say; others assert that "she is stubborn." Among her family's relations, she is considered "spoiled, and jealous of her brother."

A true estimate of Helen's status is difficult to attain at this time. But one thing is certain: Her disposition is anything but an asset. Some of her difficulties may be explained on the basis of puberty with all its physical and emotional imbalances, but to blame everything on the natural phenomenon is sidestepping the real issue. The girl's future, judging from present indications, is not bright. It is possible, of course, in view of her good mental equipment, that with tactful guidance on all phases of adolescence, Helen's energies may be steered along a happier course than she is now charting. Under the effective program of rehabilitation she may yet make a good showing. However, she will never know the blessings of a happy, carefree childhood. It is even more pathetic if we recall that the girl's struggles were avoidable.

She was fed "teaspoon by teaspoon" until the second baby invaded the home. Helen was then 8 years old.

FUTURE POPULATION

Future emphasis on the population of the United States might well be placed on quality rather than on quantity alone as measured by the gross number of births, The *Journal* of the American Medical Association declares in an editorial on "The Optimum Population of the United States." The *Journal* believes that the slowing of population growth in this country now manifest is not a condition to be viewed with alarm but one that is economically desirable.

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A CODE for TEACHERS

Mental Health

Don't use sarcasm or ridicule.

The Greek root-meaning for sarcasm, according to Webster, is "to tear the flesh like dogs." It is also a good way to tear the child's self confidence, personality, and morale. It also carries a money-back guarantee to make children hate you, thereby ending your usefulness as a teacher.

Don't speak disparagingly of any child's honest efforts.

All genius has a small beginning. Teaching must be done with care lest one extinguish the small flames in too vigorously trying to fan them. It is an indictment of the schools that some of the great men who passed through them in childhood had to wait until graduation, or had to leave school early, before they could find freedom to exercise their talents.

Don't penalize imagination.

It is the germ of genius. In its magic lies much of the hope for an improved civilization. It is normal and healthful for children to have imaginative companions, experiences and adventures. Don't be too alarmed if extremely young children sometimes confuse fancy with reality. If children are still in the primary grades, this is usually normal.

Don't criticize a child's parents.

Criticize some one else, or the weather, but don't let the child hear you criticize his parents, or their beliefs. You only confuse him and present him with a problem he cannot solve. To him his parents are probably the best in the world. At least they are the best he has, and he is not responsible for them. A child needs a sense of security above all else if he is to keep mental health.

Don't be too sure about the good pupil.

The perfect little angel in school may be an extreme introversion case, with attitudes of unsocialness, jealousy, and suspicion. He may be well on the way to a dangerous psychosis, or even criminal insanity in later life. However, a good deal of boisterous fun and activity are normal complements of childhood growth. The pupil who annoys you most may be mentally much more healthy than some of the students you give perfect deportment or conduct grades. It is not normal for a child to act too much like an adult. He is a child and should act like one.

Physical Health

Don't sacrifice the child's health for your convenience.

Don't force him to stay outdoors in weather that keeps you inside. Don't be a slave to rules and routine. Don't refuse to let him dry out wet clothing, leave the room, rest when tired, or stay in when tired. Consult the children about room temperature and ventilation as well as lighting. Adjust these factors to their comfort, rather than to your own. And remember that a dollar saved on fuel or lighting may cost a hundred dollars in health or vision.

Don't ignore parents' requests to exempt the child from special activities.

His case should be thoroughly investigated. He may have a weak heart, weak kidneys, or other disorders you don't know about. Parents and children are sometimes reluctant to divulge such personal matters, and a sensitive child may be hesitant about mentioning some specific difficulty.

Don't practice medicine without a license.

Don't diagnose. Don't prescribe. Don't treat. Don't say, "That child has eczema"—or impetigo, scarlet fever, mumps, measles, or any other specific disease. There are several hundred skin conditions and diseases; and only a specialist should make the diagnosis. False symptoms may often suggest indigestion, pharyngitis, or some other "simple" illness, but the real trouble is far more serious.

(Continued on page 157)

A Bill of Rights

Every child, at the time of birth, should have the privilege of saying to his parents: "Here is my bill of rights as a child. Do you agree to guarantee its inviolability? If not, then I decline to be born." And, at the time of entering school, he should be able to require a correlative promise from his teachers.

Moreover, every parent and teacher should be examined once a year with such questions as, "Do you still remember your own childhood?" And when the candidate can no longer answer affirmatively—and enthusiastically—he should be released from assignments as a parent or teacher.

In formulating a code of "dont's" for parents and teachers, no rule can be included unless it is justified by evidence from research and by authoritative views of child specialists, physicians, psychologists and educators.

A CODE for PARENTS

By DOUGLAS E. LAWSON

Mental Health

Don't use sarcasm or ridicule, or speak disparagingly of honest efforts, or penalize his imagination.

A child is a child, not a miniature adult. He has as much right to be a child and act like one as an adult has to be an adult. It is all a part of natural growth. For the sake of his future personality, let him be a child now. A "fine little man" is not normal. A "swell boy" is.

Don't criticize the teachers to the child.

He probably misconstrued what they said, and you merely add to his mental confusion.

for Children

The major factors leading toward a well-integrated personality pattern in the developing child are: Mental Health, Physical Health, Educational Growth, and Moral and Social Training. These various segments represent all the health and personality concepts mentioned by the national reports and surveys, including that of the Commission on the Reorganization of Secondary Education, and those which have dealt specifically with problems at the elementary level. Special attention has also been given to the findings of the more recent clinical investigators.

It is obvious that many of the "dont's" for teachers are also applicable to any code for parents. In such cases, they are merely mentioned in that section, and points particularly applicable to the home have been added.

Don't try to make your child too different from others.

There probably is no unhappier child than the one whose parents insist that he be different, wear different clothes, have a different kind of haircut, or in some other way be made conspicuous. Children's personalities carry the scars, sometimes for life, when parents attempt this kind of personality surgery in the effort to create an improved variety of child. Do you remember when you were a child, and when you were the only youngster in the neighborhood who was not allowed to dance, to wear long pants, to bob your hair, to use makeup, or to see the show? The mental torture lasted much longer and probably did more damage than would the probable effects of the forbidden indulgence. Of course, parents must protect their children against vicious habits and surroundings. But unless they really are vicious, consider the child's mental health before enforcing your rules. Don't forget your own childhood.

Don't let the child feel insecure in the home.

This is where many parents make their most serious error. For his own mental health, the child must feel that he is a necessary and integral part of the family life, with certain rights, certain responsibilities, and certain privileges in family affairs, decisions, and functions.

Don't contrast the child unfavorably with others in matters beyond his control.

Do you want him to have an inferiority complex, a sense of failure, insecurity, and feelings of jealousy—all the germs of some later psychoneurosis? These are the things which breed a host of mental maladjustments, and often result in serious difficulty in later life. Remember that the unhappy child is not a healthy one.

Don't talk too much about your child's defects or illnesses.

Half of our illnesses are mental. Discourage the child from thinking he is especially delicate or frail, unless you would like him to become a hypochondriac.

Physical Health

Don't be a sex extremist.

The prudish parent who cannot tell a child the truth is not ready for parenthood. But neither is the one who stuffs the child with a lot of facts he isn't old enough to understand and truly appreciate. When the child is old enough to evince curiosity, or interest, then tell him. Always tell the truth, but don't get ahead of his normal interests and natural understanding. Don't excite morbidity by telling him that his unconventional behavior is "bad," "nasty," or "wrong." It is often perfectly natural. It is much better to tell him his actions are "impolite," "silly," or "not good for his health."

Don't be a home-remedy expert.

Consult your doctor. More than one parent has killed his child by giving a standard remedy at the wrong time. Even a simple laxative may cause death. There are thousands of symptoms; and each requires the specialized knowledge of a professional expert. Ask your doctor to tell you about the cases in which he has seen a parent ruin a child's health by one wrong prescription when the nature of the illness seemed obvious.

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Moral and Social Training

Don't expect an angel.

Parents who try to make children morally perfect are apt to get freaks instead.

Don't punish when you or the child is angry.

You will not get anywhere that way. The aim of punishment is to induce improvement in behavior, not to serve as an outlet for your pent-up anger.

Don't try to give your child his ideals.

Help him to build his own, and they will mean much more to him and he will probably come nearer living up to them. He cannot live up to something that he does not accept and believe. Encourage him to reason through to his own conclusions and don't be too excited if they differ somewhat from your own—as long as he is trying to think straight. Things are not right or wrong *per se*, but in terms of their consequences; and consequences are sometimes different for different people.

Don't be inconsistent.

The parent who cannot handle a child probably has started too late, or has not stuck to his job. The obedient child is obedient because he knows absolutely that "no" means no and that "yes" means yes at all times. The parent who lets a child get by with disobedience today and punishes for the same offense tomorrow is the poorest kind of psychologist. For his own feeling of security, the child must know that certain results will follow certain types of behavior.

Don't be an extremist.

The extreme at either end is almost certain to be wrong.

Don't be a dictator.

Help the child to help himself. Let him have a part in building the rules of conduct for the home.

Educational Growth

Don't take report-card grades too seriously.

And never scold the child unless you are sure he is not really trying. Do you remember some of the grades you used to get yourself?

Never ask a teacher what your child's I.Q. is.

A good teacher will not tell you, and few teachers are qualified to give accurate intelligence tests. Actually, there is no such thing as a completely valid I.Q. test. The best results are close approximations, and the best of recent authorities think that there are some factors in intelligence that they have not yet measured with any degree of accuracy.

If you should happen to find out that your child's I.Q. is low, don't tell him. A parent is never justified in telling a child that he is "dumb." Remember, if your child is mentally deficient, he most likely got his trait through your germ plasm. So don't blame him. Besides, there is an honorable and worth-while place in life for every member of society, no matter what his I.Q. And, again, even if his academic intelligence is low, he may have mechanical aptitude, social intelligence, emotional intelligence, or something else that some of the "smart" ones lack.

Don't expect teachers to do it all.

Why not use modern education's progressive methods in your own home? The rules for learning are the same at school, or at the dinner table. Good teachers use clever motivation. How about good parents?

Don't be too critical of the school's program.

There has rarely been any worthwhile innovation in the long history of the American public schools that did not have to fight against public opinion and tradition. The schools of today are, in the opinion of qualified judges, far superior to the ones you went to in your own childhood. You want the best advantages from the school, but you cannot get them for your child unless you make him feel that the school is good and that it has your support.

A. M. A. TO PUBLISH NEW PERIODICAL

Beginning in January, the American Medical Association will publish a new periodical, *War Medicine*, as a part of its contribution to the preparedness program, The *Journal* of the Association announces. The editorial board will be the committee on Information of the Division of Medical Sciences of the National Research Council. The publication will be a bimonthly.

A CODE for TEACHERS

(Continued from page 154)

If all the salves, pills, laxatives, and sedatives that teachers have given to children at school were laid end to end and sold for junk, the purchase price might buy enough legal service to prosecute and convict a number of well-intentioned teachers for violation of the statutes, and might include even a few charges of manslaughter. "Sample" or advertising packages of drugs distributed by manufacturers to the schools should not be handed out to children, no matter how much faith the teacher may have in the product. Always turn this material over to local health authorities.

Don't prescribe. Don't tell parents that the child "needs glasses." It is safer and more ethical to say merely that the child is recommended for examination by a specialist. And don't spoil your professional record by suggesting which specialist to see. As a state employee, no public school teacher can ethically do that.

Don't let a child stay in school with undiagnosed symptoms.

Call his parents, or send him home. His stomach ache may be a hernia, or an appendicitis. His slight rash may be dangerously infectious. You may be indirectly responsible for anything from a single case of permanent health impairment to a community epidemic. No child, absent from school, should be readmitted without a medical certificate. Don't take chances. The school has a legal right to demand a physician's written approval before the child is admitted.

Don't expect to teach your health program entirely from books.

It cannot be done. Knowledge alone is not education. Good teachers combine health teaching with almost all of the curriculum. The playground, the lunch hour, the science classes, the opening exercises, the daily inspection and other opportunities are utilized for this purpose by the good teacher. Programs, plays, games and club activities are often the most effective background for teaching. Unless the facts learned are put into effect in the home and community, teaching becomes sterile. Cooperation between home and school, the aid of local health authorities and doctors, and pupil participation in community projects for health improvement may mean more than all the academic facts that you teach in your health classes. Book teaching is, of course, the easiest of all teaching for the lazy or unimaginative teacher. But it has slight carry-over value in healthful living outside the schoolroom.

Educational Growth

Don't expect all children to achieve alike.

Without doubt, a child's mental health is more important than his knowledge of arithmetic or grammar. The greatest change in American education during the past fifty years has been the recognition of individual differences. Too close a scheme of standardization is undemocratic, undiagnostic and often conducive to abnormal attitudes in children.

Don't put the subject matter at the focal point of attention.

That is where the child belongs. Teachers of history, geography, or science are never as good as are teachers of children. You owe nothing to your textbook. You owe everything, even your job, to your children. One of the two major causes listed by mortality statisticians for the number of child suicides in America is "fear of failure in school." This is the fault of the school, not the child. If he is weak in your particular subject, perhaps he is an Edison, or Einstein, in some other subject. There is little excuse for retardation. Children are forced to attend school; hence the school must be adjusted to their individual talents and abilities. Do you know your children as well as you know your subject matter? If so, you are probably a superior teacher. The other kind of teacher pours forth a welter of factual information; she is a sort of animated encyclopaedia.

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Moral and Social Training

Don't use corporal punishment.

Perhaps you believe punishment should be fitted to the crime. But good teachers fit punishment to the child. Suppose two children commit the same offense. You give them the same punishment. But, depending upon home background and inherent reaction, one child may find your punishment light. He may even laugh about it. But to the other child it may be a lifelong disgrace. So the two punishments were not "equal" after all. Corporal punishment can almost always be avoided by the good teacher. Its only proper place is in the home where parents know intimately the disposition and reactions of the child.

Don't punish when either you or the child is angry.

Probably half of school punishment is administered not as a corrective measure but as a release for a teacher's emotion. Remember that psychiatrists, clinical psychologists, bureaus of child guidance, and physicians seldom recommend punishment. Usually some positive motivation is recommended, or a change in environment, activity, or duties. The good teacher, like the good doctor, considers a child's behavior as symptomatic of some underlying cause. Nothing the patient says makes the doctor angry, for it is merely further evidence of the nature of the patient's type of disease. Likewise, the good teacher should be an objective, impersonal diagnostician in this same sense.

ANSWERS TO HEALTH QUESTIONS

(Continued from page 133)

(1) Insulin widely employed in treating diabetic patients, is also used to "shock-treat" mental patients.

(2) The total food supply in the United States is considerably more than sufficient for our own needs, despite the increasing popular belief to the contrary.

(3) Neuritis is the name for inflammation of the nerves. Neuralgia means simply "pain in the nerves," and arthritis is inflammation of the joint.

(4) The progress of paresis, or syphilitic softening of the brain, can sometimes be checked.

(5) Ether and nitrous oxide.

(6) Worry and fear can definitely be traced as causative factors of neuritis, just as they play a part in both the cause and effect of many ailments.

(7) The habitual wearer of high heeled shoes develops shorter muscles in the back of her leg. A change to low heeled shoes results in a stretching of these muscles which may cause considerable pain.

(8) Stockings that are too short cause the toes of the feet to curl under thereby creating an improper walking position that may lead to later foot trouble.

(9) Nursing her baby during the first few weeks causes the quicker return of the uterus to its normal position. The entire recuperative process from childbirth is hastened.

(10) Yes.

ADDISON'S DISEASE

A new and what they believe to be an effective method of administering the synthetic preparation of the cortex hormone of the adrenal gland, known as desoxycorticosterone acetate, for the treatment of Addison's disease is reported in The *Journal* of the American Medical Association by Evelyn Anderson, Webb Haymaker, San Francisco, and Edward Henderson, Bloomfield, N. J. They say that when the preparation is dissolved in propylene glycol, an alcohol, and placed by drops under the tongue it is readily absorbed and is as beneficial as when injected into muscles or under the skin. Addison's disease is the result of the destruction of the outer portion of the adrenals.

What We Know About Influenza

(Continued from page 140)

invasive power, may produce a pneumonia.

During the past several years the development of the new sulfonamide group of drugs should be of great value in the management of pneumonias in future influenza epidemics. No specific drugs were available during the 1918 epidemic and many pneumonia deaths occurred which might have been prevented if better treatment methods had been available.

To date, there is no drug which can be used to prevent or cure infection with the influenza virus itself. Hundreds of compounds have been tested for such action but not one has been effective.

But the men of science are better prepared against future epidemics than they were in 1918. They know the cause and action of this disease. There is a promise of prevention by vaccination and there are new and effective drugs which should be useful in combatting the serious complications which occur.

Since influenza is a disease which is spread by the respiratory route, avoidance of contact with those suffering from the disease affords some protection against it. It has been shown, however, that some individuals during epidemics develop immunity without showing signs of infection. In order for this to occur, the virus must have been present and such persons in all probability are able at certain times to transmit the virus to others. Even though this appears to be a real danger, it is undoubtedly true that avoiding, so far as possible, those acutely ill is one of the best means of prevention. Crowded places should also be avoided during epidemics.

Every person developing signs of influenza should go to bed promptly and should remain isolated from others as much as possible. He should have the care of a physician so that early symptoms of pneumonia or other complications may be observed and appropriate treatment be instituted at once whenever indicated. It is particularly important that the patient remain in bed until he has recovered.

Health and National Defense

(Continued from page 146)

famous walker—once a year he walked around Manhattan Island—but he was also a Pilgrim of the spirit. Whether he was walking down Broadway or around Gramercy Park, he was always marching toward the Holy Land, and with him marched thousands who caught from him the contagion of his health. It is true that health is a minister to a sane religion. It is also true that a sane religion is a minister to health. I wish that physicians could transform yellow curs into men, and men into Pilgrims. Perhaps this is too much to ask. If they are to do a superlative job, they will serve as guides to those sources of perennial health which are beyond the reach of time and circumstance, even the great circumstance, Death. The task is not easy, nor will it always meet success. A mountain man said to one of our deans, "I sent my gals off to school, and then they went off and got married just as if they was ignorant." The physician, the nurse, will deal with many who will go off and get married to the world, just as if they were ignorant.

But I was encouraged by what I saw the other day in Cleveland. An elect lady of the city had given her lovely home for a Health Museum. The civic organizations, the medical fraternity, and many individuals are backing the enterprise. The Chamber of Commerce sponsored a luncheon, marking the opening of the Museum. As the creative genius, Dr. Gebhard, led me from room to room of the Museum, it seemed as if I were visiting a war college, from which men and women, students all, will pass, equipped to serve effectively the national defense. The Museum is a prophecy. It will serve as a precedent which many cities will follow.

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Medical News

OF THE MONTH

Tattooing to Identify Serum Sensitivity

The widespread adoption of a simple system of tattooing individuals known to be sensitive to tetanus antitoxin might save many lives and avoid much confusion in cases of injury in war or civil life, Harry Dan Vickers, Little Falls, N. Y., suggests in the *New York State Journal of Medicine*.

Serum is widely used after accidents to prevent the development of tetanus or lockjaw. However, some persons are so sensitive to it that its administration to them is more dangerous than the possibility of contracting tetanus. In times of emergency, when the patient may be unconscious and unable to explain his condition, serious damage may result even from testing with minute quantities of serum.

"If there were some universally accepted code system which could be tattooed on an inconspicuous portion of the body," Vickers says, "a physician would be able to recognize those people to whom serum should not be given. In wartime air raids on civilian populations, many lives might be saved by such a simple device. Certainly a serum-sensitive individual would not object to a little tottoo mark, if it might be the means of preventing a serum reaction, or even death.

"However, an identifying code system such as this would have to be at least nationally accepted. It would have to be simply and easily read, sponsored by some national medical group which would have to educate both the laity and the medical profession, and a method of tattooing which could be made available to the medical profession.

"A tattoo code could also be used to identify the diabetic and the epileptic, both of whom are often found unconscious, and often puzzle the physician who is called. Perhaps if such a system could be started, other applications would be found, such as toxic conditions in pregnancy. Letters might make the most easily adaptable system. For example, a black 'E' could be taken to mean that the person was subject to epilepsy, a black 'D' would identify a patient as being diabetic. Red coloring might be reserved for the dangerous states, so that a red 'S' might indicate serum sensitivity. Underscoring or encircling of the letter could be done to indicate greater degrees of sensitivity.

"It is not claimed that this procedure would be an everyday help to patients, but it would be, in emergencies, a benefit which the medical profession could extend to humanity."

United States Army Will Need 9,100 Physicians by Spring

A total of 9,100 physicians, of whom 5,300 must be procured during the next few months, will be required for the total strength of the army of the United States next spring, which will be approximately 1,400,000 men, the surgeon general of the Army declares in an outline regarding the participation of the Army Medical Department in the 1940-1941 military training program, published in The *Journal* of the American Medical Association.

Feeding Premature Infants

Since an early, rapid gain in weight is not essential in the care of the premature infant, precautions should be taken against overfeeding, Julius Hess, Chicago, warns in the *Journal of the Iowa State Medical Society*. "This is undoubtedly one of the important factors in the high mortality and morbidity rates found among premature babies during the first three to six weeks after birth," he says.

"In feeding the premature infant it is essential to establish a 'food tolerance,' inasmuch as the intestinal tract as well as the other organs are underdeveloped. This tolerance can best be established by feeding small quantities of food and increasing the amount slowly. The infant does best if we feed him the smallest amount of food on which he will gain weight rather than if we attempt to produce a rapid early gain. If the premature baby gains weight, no increase is made in the feeding that day. If he fails to gain, an increase of only one to two cubic centimeters in each feeding is made."

Atom Smashing Machine Now Helping Combat Disease

Science's latest wonder machine, the cyclotron (atom smasher), already is showing evidence of becoming a valuable aid in combating disease. In an editorial The *Journal* of the American Medical Association points out that promising results have been reported in the treatment of the highly fatal blood disease, leukemia, with phosphorus made radioactive in the cyclotron. Leukemia is a condition that involves among other things a marked increase in the number of white cells in the blood and enlargement of the spleen, lymphatic glands and the bone marrow. The rays emitted from radium and radioactive substances have been found useful in treating many diseases.

Scores Failure to Recognize Submarine Disaster Heroes

The neglect to give the three Navy Medical Corps officers and the Hospital Corpsmen in attendance during the life-saving operations involved in the disaster to the submarine Squalus in 1939 the same type of award given nonmedical personnel is scored by The *Journal* of the American Medical Association in an editorial which says that the right of these men to governmental awards should be recognized.

Self Treatment with Nasal Oil

The widespread practice of self medication with nasal oils must be discouraged, Paul R. Cannon, Chicago, warns in The *Journal* of the American Medical Association in an article discussing the problem of lipoid pneumonia, a type caused by the breathing into the lungs of oily medicaments administered either through the nose or by mouth. The article is published under the authority of the Council on Pharmacy and Chemistry of the Association.